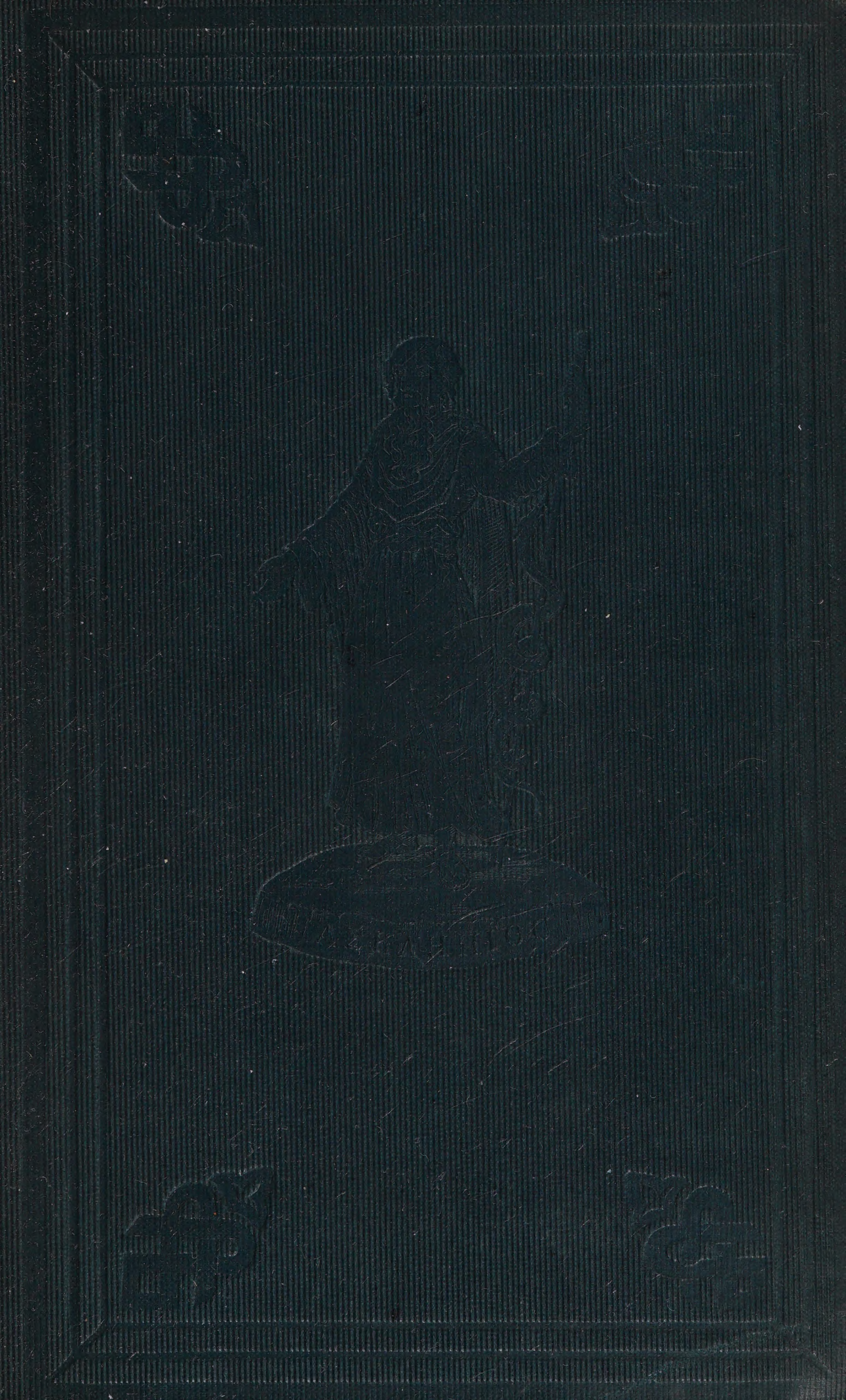

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HALF-YEARLY ABSTRACT

OF THE

MEDICAL SCIENCES.

JANUARY—JUNE.

1868.

ABSTRACT

OF

SCIENCES.

—JUNE.

868.

THE

HALF-YEARLY ABSTRACT

OF THE

MEDICAL SCIENCES:

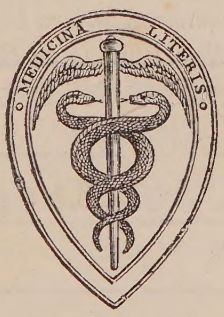
BEING

A DIGEST OF BRITISH AND CONTINENTAL MEDICINE,

AND OF

THE PROGRESS OF MEDICINE AND THE COLLATERAL SCIENCES.

Apparatu nobis opus est, et rebus exquisitis undique et collectis, arcessitis, comportatis.
CICERO.



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HALF-YEARLY ABSTRACT

OF

THE MEDICAL SCIENCES,

ETC.

PART I.

PRACTICAL MEDICINE, PATHOLOGY, & THERAPEUTICS.

SECT. I.—GENERAL QUESTIONS IN MEDICINE.

Art. 1.—*On the Nature of Vaccine Virus.*

By M. A. Chauveau.

(*Gazette Hebdomadaire*, No. 8, 1868.)

The following is an abstract of a paper presented to the Académie des Sciences, on the nature of vaccine virus, and the experimental determination of the elements forming the principle of virulent vaccinal serosity:—

The virulent humour furnished by the virulent pustule is a complex product, analogous in its composition to all the non-specific pathological serosities. Neither chemical analysis, nor microscopical examinations have revealed any special element to which the peculiar activity of vaccinia might be attributed. This activity necessarily exists in the common elements which take part in the formation of vaccinal serosity, and which, according to the opinion of Claude Bernard, have acquired a virulent property through simple isomeric modification. But does this metamorphosis, which establishes the virulence, affect all the elements of vaccine? or rather does it act upon some one or some few of them? does the virulent activity require the concurrence of all these elements, or is one sufficient for its production? M. Chauveau has attempted to resolve these problems by isolating the principles which enter into the composition of vaccinal serosity, and subjecting each of them to the criterion of physiological experimentation: serum containing, together with albumen which forms the base, all the other soluble substances, was dealt with on the one hand, and on the other, the solid elements, that is to say, the leucocytes and the elementary granular bodies which are suspended in the serous fluid.

M. A. Chauveau derived the following results from his experiments:

The leucocytes do not constitute the essential agents of the virulence. They may share in this property with the other elements of vaccinal fluid; but they do not possess it exclusively.

M. Chauveau succeeded in obtaining vaccinal serosity entirely free from all solid bodies, including the finest molecules. This was done by utilizing the phenomenon generally known as diffusion.

Whilst the inoculations of the perfect vaccine succeeded, that of the vaccine deprived of its solid matter always and most completely failed.

M. Chauveau, to give this fact its whole significance, states that "the purely serous liquid was always tested by heat, or nitric acid, at the time of its inoculation, and gave in every instance the reaction denoting the presence of albumen. Neither the absence of this fundamental element or of any others, nor their extreme dilution, can therefore be brought to explain the inactivity of the vaccinal serous fluid."

These experiments permit of the conclusion that the vaccinal serous fluid is not virulent, and that the activity of the vaccine exists in its solid bodies, either in all without distinction, or in one special portion of these small elementary organisms.

This inactivity of the vaccinal serous fluid, M. Chauveau states, constitutes a fact of great importance, not only with special regard to the theory of virulence, but also from the general point of view of the physiology of the elements.

Art. 2.—*Thermometrical Observations in Typhoid Fever.*

By R. E. Thompson, M.D.

(*St. George's Hospital Reports*, vol. ii.)

Dr. Thompson's observations extend over a period of three years, and are made from a careful study of forty-seven cases. They tend to confirm Professor Wünderlich's researches on the same subject. In typhoid fever, a decrease of temperature is not always a favourable sign, nor is a rapid fall symptomatic only of a crisis. As a rule, the nocturnal increase of temperature in this form of fever is very considerable, and amounts to two or two and a half degrees. During the latter half of the first week, the heat increases day by day, and varies between 102° and 103° in the morning, and 104° or even 105° in the evening. These high temperatures are quite sufficient to distinguish typhoid fever from tubercular meningitis or from peritonitis, these diseases seldom showing much increase over 102° Fahr. During the second week, the temperature varies between 102° in the morning, and 103° and 104° in the evening, the oscillations being influenced by the amount of diarrhœa. The thermometer does not enable one to say, by a longer prediction than twenty-four or forty-eight hours, whether the case is likely to be fatal or not; but a steady rise in the temperature will often indicate the danger of ulceration of the bowels twenty four hours before the intestinal lesion is manifested by diarrhœa and hæmorrhage. The mode of termination of the fever is characterized by extraordinary oscillations in the temperature between morning and evening, the difference being sometimes as great as nine degrees. This feature

distinguishes the thermograph of typhoid fever from that of almost all other diseases. In one case of perforation of the bowel, which was preceded by hæmorrhage, the heat of the body was reduced from 102° to 99°·5, and was followed by a rise to 102°·2, where it remained for forty-eight hours before death, during which period perforation took place.

The conclusions that the observations made with the thermometer in cases of typhoid fever lead Dr. Thompson to draw, are the following:—

1. The thermometer points out a distinction between typhoid fever and some other diseases which often simulate it, viz., acute granular kidney, meningitis, peritonitis.

2. The thermograph of typhoid differs from that of other fevers, and especially in the mode of favourable termination.

3. An additional distinction between typhoid and typhus fevers is thus given.

4. It is possible by its use to appreciate intestinal lesions before they are recognised by the ordinary symptoms.

Art. 3.—*On the Pathology and Treatment of the Typhoid State in different Diseases.*

By Charles Murchison, M.D., F.R.S.

(*British Medical Journal*, January 4, 1868.)

In this paper Dr. Murchison directs attention to several cases of disease, widely different in their nature, but in all of which there has been a similar group of symptoms, constituting the condition known as the "typhoid state."

In the cases submitted, the group of symptoms known as the "typhoid state" was the same, notwithstanding the varying nature of the primary maladies. These symptoms are, a quick, soft pulse; a dry brown tongue; the symptoms and physical signs of hypostatic congestion of the lungs; impairment of the mental faculties: stupor passing into coma; delirium, which at one time is acute and noisy, at another low and muttering, and not unfrequently associated with muscular tremor; involuntary evacuations; and occasionally subsultus, carphology, or even general convulsions. The precise grouping of the symptoms will vary in different cases even of the same disease, while in diseases essentially different it may be identical.

The post-mortem appearances met with in such cases are a dark fluid condition of the blood; hypostatic congestion and œdema of the lungs; old disease or recent congestion, with epithelial engorgement of the tubes of the kidneys; enlargement and softening of the spleen, and, unless the typhoid state have been of very short duration, an accumulation of serous fluid in the lateral ventricles and at the base of the brain, the veins and sinuses of which are usually full of dark blood.

The typhoid state is developed more commonly in true typhus fever than in any other disease that we are called upon to treat in this country; and accordingly, all diseases in which the typhoid state is apt

to be developed are constantly mistaken for typhus, so that the cases registered in official returns as deaths from "typhus," furnish no reliable test of the prevalence of this epidemic fever. The cases sent as typhus to the London Fever Hospital, and in fact, to all Fever Hospitals, from year to year, testify unequivocally that there is scarcely an acute disease to which flesh is heir which may not in the way pointed out be mistaken for typhus. Next to true typhus, enteric, pythogenic, or the so-called "typhoid fever," is the malady in which the typhoid state is oftenest met with; and this is one reason why it was so long, and is still so often, confounded with typhus. In many cases of enteric fever, it is true, the typhoid state does not appear at all, or only late in the disease, and in the latter case the attack is often, though erroneously, described as "gastric fever passing into typhus." Cases of pneumonia are not uncommon where the symptoms of the local disease are completely masked by those of the general blood-poisoning, in the form of maniacal delirium passing into coma; and there are few medical men who have not met with examples of acute rheumatism passing into a condition indistinguishable from the typhoid state of typhus, and presenting similar morbid appearances in the solids and fluids after death. Another class of cases very commonly mistaken for typhus is constituted by certain forms of kidney-disease, and particularly the contracted, granular, or "gouty" kidney. In this form of kidney-disease the patient may at no period of his life have suffered from dropsy, and the urine may contain only a minute trace of albumen; or even none at all. The symptoms ordinarily associated with one's idea of kidney-disease are absent, and therefore when cerebral symptoms supervene, the primary disease is overlooked, and the case is regarded as one of typhus; or, if the attack be sudden or ushered in with convulsions, as one of apoplexy. The "serous apoplexy" of the pathologists of a past age—cases diagnosed as apoplexy during life, but where no apoplectic clot was found in the brain after death—were probably, for the most part, examples of contracted kidney. As physician to the London Fever Hospital, numerous cases of contracted kidney have come under Dr. Murchison's notice during the last six years in which the cerebral symptoms—the typhoid state—were indistinguishable from those of typhus, and where, failing any previous history, the only points distinguishing from typhus have been the absence of any eruption on the skin, and the fact that the temperature has been but little elevated above the healthy standard, except when some local inflammation has complicated the primary disease in the kidney.

Dr. Murchison next explains why it is that a similar state of the system is so often produced in the course of diseases so widely different, and shows, in fact, that the pathology of the "typhoid state" in all diseases is probably identical, whatever be the cause of the primary disease.

To take, first, the cases of contracted kidney: it is now, Dr. Murchison says, generally admitted that the cerebral symptoms are due to a poisoned condition of the blood. There may be differences of opinion as to whether the actual poison is urea or some compound of ammonia; but for our present purpose it is immaterial to inquire which of these views is the more probable. It is sufficient to know that the

blood is poisoned with the products of the retrograde metamorphosis of the nitrogenous tissues, which it is the function of the kidneys to eliminate from the body. The destruction of tissue is not increased beyond the standard of health, but the disease of the kidneys renders them incapable of separating from the blood the normal quantity of the products of that metamorphosis.

Take next the class of febrile diseases. It is well known that convulsions—a symptom characteristic of an extreme degree of the typhoid state—are not uncommon in scarlatina, and it has long been acknowledged that this symptom is independent of any cerebral lesion, but is due to poisoning of the blood in consequence of inflammation of the kidneys. Convulsions, however, are met with in many other febrile diseases besides scarlatina. Dr. Murchison has known them occur in typhus fever a hundred times or more, and he has published evidence to prove that their pathology in typhus is the same as in scarlet fever. The urine contains always more or less albumen; the kidneys after death exhibit traces of disease, old or recent; and in not a few instances he has discovered urea in the fluid of the cerebral ventricles. But convulsions, under such circumstances, are only an extreme symptom of the typhoid state. In a large proportion of cases of typhus, even where no convulsions occur, albumen is present in the urine during the second week of the disease where cerebral symptoms are most apt to appear; and in several cases where death has been preceded for some time by the typhoid state, but not by convulsions, Dr. Murchison has found urea in the cerebral fluid.

And if this be the pathology of the typhoid state in scarlet fever and in typhus, it may fairly be inferred that the typhoid state in all febrile diseases, whether they be due, in the first instance, to a specific poison or to a local inflammation, admits of a similar explanation. As in the contracted kidney, the blood is contaminated with the products of tissue metamorphosis, but the cause of the contamination is different. It is now well known that in all febrile disease the disintegration or combustion of the tissue is greatly increased beyond the healthy standard. To this is to be ascribed the increased temperature, which is the pathognomonic symptom of the febrile state, and the rapid emaciation. The products of this increased metamorphosis are mainly eliminated by the kidneys, and appear in the urine. As long as the kidneys are equal to the increased work thrown upon them, the blood is properly depurated, and the typhoid state is warded off. But if the kidneys be unequal to the task, either from the large amount of effete material to be eliminated, from previous disease in the secreting tissue, or from congestion resulting (as it often does) from their increased work, then the blood becomes contaminated, and convulsions or the typhoid state supervene. This explains why albumen so commonly appears in the urine in the course of all acute diseases of a severe form, and why it is so justly regarded as an unfavourable symptom. It also explains why albuminuria is looked upon as a contra-indication to any serious surgical operation. The surgical fever which follows an operation is attended by an increased metamorphosis of tissue; and if the kidneys be diseased, the products of the metamorphosis will be retained in the blood, and induce the typhoid state with all its dangers.

If the views now submitted as to the pathology of the typhoid state be correct, they furnish material for reflection as to its appropriate treatment. This ought to be directed towards depuration of the blood of the products of tissue-metamorphosis, avoiding, at the same time, all measures which will irritate the kidneys, and interfere still more with their secreting functions. At the present day, existence of the typhoid state is usually regarded as in itself an indication for liberal administration of alcoholic stimulants. Considerable experience of the typhoid state in all diseases has induced Dr. Murchison to doubt the wisdom of the practice, and from an experimental inquiry at the London Fever Hospital, in which the patients admitted with typhus fever on alternate days have been treated with and without alcoholic stimulants, he is satisfied that the benefits of late years ascribed to alcohol in the typhoid state have, to say the least, been greatly over-rated. Before drawing conclusions as to the good effects of alcohol in typhus, it is necessary to watch the course of the disease where no alcohol has been given, and this precaution has too often been overlooked. In the condition accompanied by great impairment of the heart's action, indicated by extreme weakness or irregularity of the radial pulse, a diminution of the cardiac impulse, and weakness with shortening of the first sound, stimulants in moderate quantity are unquestionably of use. It is the indiscriminate administration of large quantities of brandy in all cases of the typhoid state that Dr. Murchison is induced to condemn, both from theory and practical experience. Such a practice, it appears to him, is calculated to prove injurious by irritating the kidneys, and thus impeding the elimination of the products of tissue-metamorphosis with which the blood is contaminated. The administration of stimulants must be regulated by the condition of the pulse and heart, and not by the mere existence of the typhoid state.

Art. 4.—*On the Pathology and Treatment of Rigors.*

By George Johnson, M.D., F.R.C.S., Physician to King's College Hospital; Professor of Medicine in King's College, &c.

(*British Medical Journal*, April 18.)

Dr. Johnson is of opinion that there is certainly some not very remote analogy and relationship between epileptic convulsions and rigors. This is shown by the fact that, in certain cases, they merge into each other and replace each other. Thus the initiatory fever of small-pox, which is commonly heralded by severe rigors, is not unfrequently, in children especially, associated with convulsions, which may recur again and again, and then finally cease when the eruption appears on the skin. Convulsions occasionally occur during the cold stage of a severe ague-fit. Pyæmic infection is usually marked by the occurrence of severe rigors; more rarely it is associated with convulsions. Mr. Paget has remarked upon this relationship (*British Medical Journal*, August 16th, 1862); and he states that once, having cut a gentleman for stone, there occurred soon after the operation a terrible rigor, followed by heat and

sweating, and then by extensive suppuration in the cellular tissue over the chest. Again, some days after, there occurred another rigor; and this was followed by similar suppuration and by other symptoms of pyæmia. Then, some days later, he had a severe epileptic seizure; and this was followed, in about the same time and in the same way as the rigors had been, by another suppuration. Then, after phlebitis and other mischievous results of pyæmia, he ultimately recovered. Another case referred to by Mr. Paget is that of a woman at St. Bartholomew's, who had relapsing erysipelas. The earlier relapses were preceded by rigors of various severity; the last was preceded by violent epileptiform convulsions, and these were followed by three days of complete coma, which seemed to be relieved when the erysipelas appeared. During the rest of her life, she showed no sign of brain disease, and she died exhausted.

In these cases the alternating rigors and epilepsy have been the result of toxæmia; but the same close relationship between rigors and convulsions is shown by the fact that both may be excited by a purely nervous influence. Rigors are frequently excited by the irritant action of biliary and renal calculi. Convulsions are a less frequent result of the same irritation.

Rigors and epilepsy have this feature in common—that both the one and the other may result from a blood infection (toxæmia), or from a purely nervous reflex influence. A careful consideration of the phenomena of rigors renders it probable that *they result from anæmia of the spinal cord.* There is positive evidence of the implication of the spinal cord in the fact that the sense of coldness is very commonly referred to the spine, which is often also the seat of severe pain. The severe backache, which is associated with the rigor during the initiatory fever of small-pox, is a familiar symptom; and a similar spinal pain frequently accompanies the rigors which mark the onset of other febrile diseases. Not long since Dr. Johnson attended a young lady with what proved to be only a catarrh; but the attack commenced with rigors and backache of so severe a character, that he feared the disease might be small-pox.

The theory which Dr. Johnson submits for consideration is that, as epilepsy is a result of anæmia of the brain, so rigors result from anæmia of the spinal cord; that the immediate cause of the anæmia of the nervous centres is the contraction of the minute arteries; and, further, that this arterial contraction in both classes of cases—namely, in cases of epilepsy and of rigors—may be a result of blood poisoning (toxæmia), or of a purely reflex nervous influence. If then this theory be well founded, rigors might be designated *spinal epilepsy.*

These doctrines, if true, have important practical applications, with reference especially to prognosis and treatment. The purely nervous rigors are usually of far less serious import than those which are of toxæmic origin; and they require a different method of treatment. In the nervous cases, narcotics and anæsthetics are of great value; and additional evidence of the analogy between convulsions and rigors is afforded by the fact that both the one and the other may surely be arrested by chloroform, which is especially useful in cases of purely nervous reflex rigors.

On the other hand, in cases of toxæmic rigors, we have to study the

natural method of cure, and to assist that if possible. The vomiting and purging which often precede or accompany toxæmic epilepsy, as well as toxæmic rigors, are probably the result of an effort to expel from the circulation the noxious materials which are exciting the arterial contraction. These symptoms, therefore, often afford valuable indications for treatment.

Art. 5.—*Cases of Fever, with Remarks on their Origin.*

By W. E. C. Nourse.

(*St. George's Hospital Reports*, vol. ii., 1867.)

Twenty severe cases of fever are very briefly noticed with reference mainly to their origin, and from them the author makes the following deductions: First, "That it is malarious blood-poisoning coincident with depression, and faulty elimination, that originates fevers of the typhus group." Second, "That typhoid fevers originate in, first, some personal debility, but not that of starvation; secondly, blood-poisoning by malaria; and thirdly, something injurious conveyed (often in the water) into the intestinal mucous tract."

Art. 6.—*On the Treatment of Malarial Fevers by the Subcutaneous Use of the Sulphate of Quinia.*

By E. C. Seguin, M.D., late Resident Physician, New York Hospital.

(*New York Medical Journal*, December, 1867.)

This method was first tried in the New York Hospital by Dr. G. M. Smith, the attending physician then on duty, in a case of congestive remittent fever, during September, 1866. It has since been applied to all varieties of malarial fever, and may now be said to be a part of the regular practice of the house.

The solution of sulphate of quinia used in the hospital is made according to the following formula:—

Take of subsulphate of quinia, 60 grains; dilute sulphuric acid, 40 minims; distilled water, 1 fluid ounce. Mix. Make a solution and filter with the greatest care.

Thirty-five minims of this are equal to four grains of quinia.

Or the solution may be varied by the addition of four or six grains of sulphate of morphia, which combination renders the injection less painful.

At first less acid was used for fear of causing irritation, but it was soon discovered that the real causes of abscess were the undissolved crystals of quinia, and the particles of dust which imperfect closing of the bottle allowed to drop into the fluid. It was also found that an excess of acid removed the most fertile source of danger, while it but slightly increased the pain of administration.

When it was decided to use the hypodermic method it became neces-

sary to work out rules for giving the remedy, both as to time and quantity, no explicit directions being found in any of the published accounts at hand. One single statement there was to serve as guide, that one grain of quinia under the skin was equivalent to five or six by the mouth (Moore). In the course of a few experiments it was discovered that this was far too high an estimate, at any rate for the class of cases coming from the South. It was observed that four grains of the medicine were needed to break an attack of tertian fever, and that fully eight were required for a quotidian. In congestive cases, of course, the amount injected varied according to the severity of the attack, and it was always given upon the estimate that one grain subcutaneously equalled four grains by the mouth. By following the experience gained while giving mouth-doses, the injections were at the first given two hours before the time of the expected paroxysm, and this was found so successful that the rule is now invariably followed. Where two injections were required, if there was time to spare, four grains were given four hours and the other dose two hours before the expected chill. If the time was too short, both injections were given at once.

In many instances no quinia was given after the last chill, excepting the four grains on anniversary days, thus making an immense saving in the use of the medicine, not more being employed in the entire course of many cases than was formerly needed to avoid a single paroxysm.

In the remittent form, the experience is small and not satisfactory. In two cases, from one to four injections were given in the remissions, but with little effect on the fever, while the number of injections caused considerable annoyance to the patients.

In about ten congestive cases the results have been satisfactory, though, as usual, the mortality has been very great. In only one or two cases have the injections been used alone, being usually employed as an accessory to the ordinary treatment of quinia and whisky given by the mouth.

In conclusion, Dr. Seguin says a word or two as to certain consequences likely to result locally from the injections. Abscesses and phlegmonoid swellings have been observed in the hospital. In all, out of a very large number of injections (one patient receiving over one hundred), only six abscesses occurred, and not one of these after the middle of January, 1867. In each instance the result was attributable to the introduction of insoluble particles along with the fluid. Maury reports two abscesses out of twenty-five cases, and Moore the same number out of thirty. When trouble was about to ensue, the swelling normally consequent upon the injection increased after the second day, and redness, together with a beating pain, were noted. The centre of the swelling was usually soft from the first, and at that place the pointing of the pus occurred. These phlegmons were first poulticed and then opened early by a free incision. No difficulty was observed in their healing.

Since January there have occurred a small number (not more than six) of what have been called phlegmonoid swellings. In these, the swellings, redness, and heat were present, but the beating pain was not; the patients complaining only of a sensation of burning. As early as the soft centre became distinct an exploring-needle was introduced, letting

out a small quantity of serum; after which the swelling was again poulticed. In all these cases complete resolution occurred.

In numerous instances the patients complained of temporary anæsthesia in or about the part where the injections were given; but the place of election in fever cases being the chest, abdomen, and back, no great inconvenience ensued. Ulceration, sloughing, and reflex nervous disturbance were never observed, nor was cinchonism ever clearly produced.

Art. 7.—*On the Treatment of Yellow Fever.*

By Charles Belot, M.D.

(*British and Foreign Medico-Chirurgical Review*, April.)

The chief points in treatment recommended by Dr. Belot may be summed up as follows:—While he deprecates general blood-letting, he advises local depletion, and thinks cupping preferable to leeches; for instance, eight glasses to the nape of the neck, ten to the loins, and eight on the abdomen. At the same time, he uses strong mustard foot-baths every two hours, and sinapisms to the calves.

As a "great aid in lessening the plasticity of the blood and relieving local congestions," he gives the tinct. aconite in doses of six drops every hour, and says, "the pulse drops, and diminishes in frequency, as do also the heat of skin and perspiration."

If the attack begins with vomiting, an emetic of thirty grains of ipecac. in four ounces of warm water should be given, and the nausea should be kept up so as to produce diaphoresis, as well as merely to empty the stomach; but if the tongue be clean and the epigastric pain severe, emetics are bad. A few hours after the action of the emetic, there is generally some amelioration, and then is the time to give a purgative of castor oil or of sulphate of magnesia.

Continuous headache is best treated by flying blisters to the nape of the neck, and applications of camphorated spirit and belladonna to the forehead. For the gastric oppression the same application is useful, combined with a very small dose of tincture of nux vomica internally; and, if nausea comes on, bicarbonate of soda alternated with the nux vomica is of service. In the acute and severe cases, any treatment is too often useless; but in the more ordinary it is better to begin with an emetic, a gentle purge, and diaphoretics, particularly Dover's powder; and when the remission occurs, to give quinine in a *single dose of thirty-six grains* in a little strong coffee. When febrile symptoms prevail, and rigors are absent, quinine is not applicable, and the author gives calomel, in small doses, every half-hour, till the usual effects are produced, and this method is, he says, efficacious. Hiccough is to be stopped (?) by pressing on the phrenic nerve near the hyoid bone.

Tannin, or perchloride of iron, is good for the hæmorrhages which often occur either from the mouth, nose, stomach, or bowels. Inflammation of the parotid gland frequently follows on these hæmorrhages, and is a good sign for recovery.

Art. 8.—*Intermittent Fever successfully Treated with Strychnia.*

By John Pearson Nash, M.D., Surgeon H.M. Madras Army.

(*The Lancet*, March 14.)

Having occasionally observed the failure of quinine as a curative agent in some types of intermittent fever, Dr. Nash was induced to try in such cases the effects of strychnia, the elementary substances of which alkaloid are very similar in their action to those of quinia.

In the first case recorded, Dr. Nash prescribed the one-sixteenth of a grain of strychnia, to be taken four times a day, which immediately checked the paroxysms, and the patient was able to return home, after having been only five days under treatment. He wrote a fortnight afterwards to intimate that he still continued free from fever.

In cases 2 and 3, as the patients were nine and eleven respectively, Dr. Nash prescribed only one-thirtieth of a grain, to be taken four times a day in some strong infusion of quassia. In six days the younger girl was free from attacks of fever, and in eleven days the elder one had also recovered.

Case 4.—Captain P. J——, the proprietor of a coffee estate in a very malarious portion of the district of Coorg, who was continually suffering from fever, and over which quinine had long since ceased to exert any influence, was ordered the one-twentieth of a grain of strychnia four times a day. On the eighth day of treatment the patient expressed himself as being perfectly well and free from fever.

Case 5.—J. C——, a carpenter in the Mercara Gaol, had suffered severely from repeated attacks of intermittent fever, for which he had taken an enormous quantity of quinine, and had also been treated with the arsenical solution, but without any benefit from either mode of treatment. He was therefore ordered the one-twelfth of a grain of strychnia four times a day, under which treatment he rapidly recovered, and has continued in good health ever since.

Dr. Nash finds, from some tables prepared by his medical subordinates, that, in the Regimental Hospital, Gaol, and Civil Dispensary, at Mercara, India, thirty-seven cases of intermittent fever have been lately and successfully treated with strychnia, with an expenditure of a little less than one drachm of the alkaloid, and that the average period of recovery was on the eighth day of treatment; whereas in the thirty-seven preceding cases treated with sulphate of quinia, with an expenditure of fourteen ounces of this salt, recovery did not result until the twelfth day of treatment.

Art. 9.—*Proposal to Stamp out Small-pox, &c.*

By Sir James Y. Simpson, Bart., M.D., D.C.L.

(*Medical Times and Gazette*, January 11.)

Isolation, Sir James Simpson says, is the chief and leading measure required to stamp out small-pox.

Various rules and arrangements would be necessary to effect the requisite amount of isolation. Without at all entering into details, Sir James observes that the following measures would, perhaps, form the chief points to be attended to in the way of regulations :—

1. The earliest possible notification of the disease after it has once broken out upon any individual or individuals.

2. The seclusion, at home or in hospital, of those affected, during the whole progress of the disease, as well as during the convalescence from it, or until all the power of infecting others is passed.

3. The surrounding of the sick with nurses and attendants who are themselves non-conductors or incapable of being affected, inasmuch as they are known to be protected against the disease by having already passed through cow-pox or small-pox.

4. The due purification, during and after the disease, by water, chlorine, carbolic acid, sulphurous acid, &c., of the rooms, bed, clothes, &c., used by the sick and their attendants, and the disinfection of their own persons.

Art. 10.—*On Catarrhal Icterus.*

By Dr. Oscar Wyss.

(*Archiv der Heilkunde*, p. 419, 1867 ; *Archives Générales de Médecine*, No. 2, 1868.)

Catarrhal icterus and the jaundice accompanying poisoning by phosphorus are caused, according to Virchow, by a catarrh of the intestinal portion of the ductus choledochus. The sudden dilatation and intense congestion of this canal, and the subsequent obstruction and discoloration of the intestinal portions of it, are the proofs invoked by the Berlin professor in favour of his opinion.

The dilatation of the ductus choledochus, however, and the intense coloration of this canal and of the hepatic duct, are wanting in many cases. Dr. Wyss, who has had occasions of observing cases of poisoning by phosphorus, has not been enabled to determine these lesions, and even failed in one case to find the mucous swelling which, according to Virchow, should obstruct the inferior and terminal portion of the ductus choledochus ; the undilated biliary ducts contained a ropy, colourless mucus, the walls were stained by bile, and the intestine was free from bilious fluid.

In order to elucidate this question, Dr. Wyss conceived the idea of seeking whether animals provided with biliary fistulæ become jaundiced after being poisoned by phosphorus. If the icterus were simply due to obstruction of the intestinal portion of the ductus choledochus, it would be absent under these circumstances, since there is a free outward flow of bile. Several dogs affected with biliary fistulæ were poisoned by injecting into the rectum phosphoretted oil (0·8 to 0·3 grammes of phosphorus to 30 grammes of oil). In this way, Dr. Wyss guarded against the vomiting which follows the introduction of phosphorus into the stomach.

The following were the results :—

1. All the dogs affected with biliary fistulæ presented symptoms of icterus.

2. The urine contained biliary acids.

3. Whilst the icterus lasted the bile did not flow continuously, as before the poisoning; sometimes it was mixed up with a quantity of mucosity, and at others its flow was completely arrested. A thick, colourless mucus collected in the fistulous track, and when this had been removed with forceps a few drops of bile were discharged.

From these experiments it may be concluded—

1. That the icterus in poisoning by phosphorus is a true catarrhal icterus; since there can be made out a catarrhal affection of the biliary passages, accompanied by an abundant secretion of mucosity.

2. That catarrhal icterus is not due to a catarrh of the intestinal portion of the ductus choledochus, but rather to the accumulation of a ropy thick mucus in the biliary canals, which are thus obstructed. Thence biliary stasis.

3. That the bile is absent in the larger bile-ducts when the canals leading to these ducts are rendered impermeable to this fluid. When these small canals are not altogether obstructed, bile may flow away in greater or less abundance.

The author, whilst admitting the possibility of obstruction of the intestinal portion of the ductus choledochus, thinks that it ought not to be looked upon as a frequent cause of catarrhal icterus.

Art. 11.—*Permanganate of Potash in Acute Rheumatism.*

By C. M. Fenn, M.D., of San Francisco.

(*Canada Medical Journal*, January.)

Dr. Fenn writes in the highest terms of the efficacy of the permanganate of potash in the treatment of rheumatism, which he believes to be due to the large proportion of oxygen which it contains. This salt promotes the transformation of lactic into carbonic acid. Dr. Fenn gives it in half-grain doses three times a day. He finds the raspberry syrup to be the best menstruum, as it disguises the somewhat nauseous taste of the medicine.

Art. 12.—*Acute Rheumatism.*

(*The Lancet*, February 1.)

At a meeting of the Clinical Society of London, held January 24th, Dr. Weber narrated two fatal cases of the above disease, in which death was preceded by excessive increase of the temperature of the body. In the first case, that of a man aged forty-five, cerebral symptoms supervened on the twelfth day of the illness, the previous progress of which had been comparatively mild, although the patient had been more than commonly restless. During the evening of the twelfth day the restlessness increased, and he passed a large quantity of pale alkaline urine. Early next morning he became delirious, and finally comatose.

This condition ended fatally in five hours, during which the temperature exceeded 108° Fahr.; his breathing was accelerated and stertorous; his pulse over 130 and hard, and the pupils without reaction. In the second case, the fatal symptoms set in and progressed in the same way, although death occurred somewhat more rapidly. Ten minutes after death the temperature in the axilla was 107°·8, and in the rectum 109°·8. In both cases, the character of the first sound of the heart, as heard at the apex, was altered. The principal pathological changes were, hyperæmia of the brain and its membranes, imperfect coagulation of the blood, recent fibrous deposit on and around the mitral valve, and hæmorrhages beneath the serous membranes. Dr. Weber expressed the opinion that in these cases the cerebral functions, after a short stage of excitement, became paralysed, and that the phenomena of intense pyrexia which present themselves are not the cause, but the effect, of this paralysis. In support of this view, he compared them with others recorded by Wünderlich, in which there was excessive rise of temperature before death in tetanus, and other fatal neuroses, and pointed out the striking resemblance of the symptoms to those of sunstroke. He further referred to the remarkable experiment of Tscheschechin, who found that after section of the pons at its junction with the medulla oblongata, the contractions of the heart and the respiration were accelerated, and the temperature raised. In his concluding remarks on treatment, Dr. Weber suggested, that all cases of acute rheumatism in which there was more than usual restlessness, should be watched with special care. If the premonitory symptoms of danger were early recognised, particularly increase of temperature, a good result might still be hoped for from the use of the cold affusion, or of other means for lowering the temperature of the body, combined, perhaps, with the use of quinine in large doses.

Art. 13.—*On the Treatment of Gout and Chronic Articular Rheumatism.*

By M. Charcot.

(*Bulletin de Thérapeutique; Gazette Médicale*, No. 12, 1868.)

Treatment of the Attacks.—M. Charcot states at the commencement of his contribution that the following effects are produced by large quantities of colchicum, a drug entering as is well known, into the composition of all professed specifics for gout.

1. Symptoms of gastro-enteritis more or less severe.
2. A marked depression of the circulatory system, with a tendency to coldness, and a lowering of the pulse.
3. Finally, nervous symptoms, and a peculiar form of intoxication.

In small doses, it gives rise only to feelings of nausea and to a moderate slackening of the circulation. This drug can be conveniently administered in small doses only; inflammatory affections of the digestive canal are then avoided, and its action moreover seems to be the more efficacious when its visible effects are less marked. It generally relieves the pain in from eight to forty hours. The mode of action

cannot be explained in a very satisfactory manner. The idea held by Chelius, Maclagan, and Gregory, that colchicum favours the elimination of uric acid has been refuted by Garrod and others. The value of the drug cannot be attributed to its purgative action, for it may not produce intestinal evacuations, nor can its sedative action on the circulatory system be invoked, since it fails to exert the same influence in other inflammations and in the various forms of articular rheumatism.

Colchicum ought not to be given at the commencement of an attack, and it should be established as a principle to give it in small doses; else the practitioner has to dread: 1. Gouty attack of the viscera; 2. Irritation of the digestive canal; 3. Accumulation of the remedy in the organism and poisoning. Finally, patients ought not to be habituated to its use, for it would then be necessary to employ constantly increasing doses. There are colchicum drinkers as well as opium drinkers, and under these conditions the gout may become atonic.

Colchicum ought not to be employed in asthenic gout. Finally, it is necessary to associate with it adjuvants, and a fitting regimen. Purgatives should be given and also alkalies, preferably salts of potash and lithia. Opium may be employed in acute attacks, but it has the disadvantage of assisting the secretions and so disturbing the regular evolution of the disease. M. Charcot has frequently seen serious cerebral symptoms occasioned by this remedy, and even uræmic affections in cases of disease of the kidney. The action of sulphate of quinine is less efficacious in gout than it is in acute rheumatism.

2. *Treatment of the constitutional state.*—In order to act against the excess of uric acid, it is necessary to have recourse to alkaline remedies, among which may be ranged—

1. The alkalies (soda, potash, lithia, and the carbonates of these).
2. The organic salts (citrates and tartrates with an alkaline base).
3. Phosphates of soda and ammonia, which act upon the urinary secretion.

The salts of potash are preferable to those of soda, and those of lithia are still better. Lithia has a very manifest diuretic action, and rapidly dissolves the uric acid. Of all the urates, that of lithia is the most soluble.

Art. 14.—*Alcoholic Rheumatism from daily Imbibition of Fermented Alcoholic Liquors, and its Remedy.*

By John Higginbottom, Esq., F.R.S., Nottingham.

(*British Medical Journal*, January 11.)

About thirty years since, Mr. Higginbottom first noticed that a form of (so-called) rheumatism was cured by abstaining for some time from the use of fermented alcoholic fluids. He said at that time that the complaint should not be called rheumatism, but alcoholism, as *alcohol* produced the disease, and abstinence from *alcohol* was the remedy. Mr. Higginbottom maintains that:—

1. Alcoholic rheumatism is the result of a distinct cause.
2. It is produced by drinking fermented alcoholic beverages.

3. It is slow in effecting a marked visible change in the system.
4. It does not usually appear before middle life.
5. Its effects are produced by the accumulation of the fermented alcoholic fluids taken into the system.
6. It causes stupidity, stiffness in the body, hobbling gait, and ultimate lameness.
7. It causes changes of structure, producing chronic alcoholism.
8. The remedy is abstinence from the use of all fermented alcoholic drinks, and taking vigorous exercise in the open air.

Art. 15.—*Zymosis with especial Reference to Cholera.**

By Arthur B. Sansom, M.D.

(*British Medical Journal*, February 1.)

The author commenced by giving an outline of the theory of zymosis. In tracing the origin of infecting particles, we may, he said, divide them into two classes: 1, those arising from the animal world, such as variola, vaccinia, pyæmia; and 2, those arising from the vegetable world, as favus, thrush, and, if we are to believe a large mass of scientific evidence, diphtheria, ague. But, whether animal or vegetable, it cannot be determined with accuracy whether the actual *materies morbi* is, at the period of infection, the one or the other. It is best, under such circumstances, to call it "germinal matter." Dr. Sansom then related a series of cases which had occurred in his practice, all of which were united by close relations of time, place, and circumstances, and in one of which the "oidium albicans" was discovered as a prime factor in the disease. The author then discussed the operation of disinfectants. He divided them into three classes: 1, those which alter the chemical constitution of the *materies morbi*, such as chlorine and iodine; 2, those which act partly chemically and partly vitally, such as the sulphites; and 3, those which act only on organized material, arresting vitality, such as carbolic acid. The treatment of zymotic disease by the internal administration of the sulphites was then considered, and forty-one cases were brought forward in which they had been employed, and in which one death only occurred. The facts seemed to be that the sulphites are the most easily absorbed of our internal antiseptics, but that carbolic acid is the most powerful. The author concluded by saying that the great desideratum was a salt which should combine the two. This desideratum Dr. Sansom had succeeded in fulfilling; and specimens of compound salts—the sulpho-carbolates—were exhibited to the Society.

A discussion then ensued, in which Dr. Routh, Dr. Hare, Dr. Symes Thompson, and others, took part.

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* Abstract of a paper read at a meeting of the Medical Society of London held December 16.

Art. 16.—*On Hæmorrhage from Waxy or Amyloid Degeneration.*

By T. Grainger Stewart, M.D., F.R.S.E., Pathologist and Extra Physician to the Royal Infirmary, Edinburgh.

(*British and Foreign Med.-Chir. Review*, January.)

For some years past, Dr. Stewart has noticed that hæmorrhage from the stomach and intestine occurs in cases of waxy or amyloid degeneration, and that independently of ulceration of the mucous membrane. He has thus been led to look into the literature of the subject, and inquire among professional friends as to their observations.

The conclusions, which seem warranted by the facts he has observed in connexion with this subject, are—

1. That hæmorrhage is not a very infrequent consequence of the waxy or amyloid degeneration of vessels.
2. That, next to the spleen, the intestinal tract is the most common seat of such hæmorrhage.
3. That the hæmorrhage occurs independently of any visible ulcerative process.
4. That it probably depends upon rupture of the capillaries at the affected parts.
5. That waxy or amyloid degeneration of the liver does not of itself suffice to induce hæmorrhage from the bowels.
6. That the hæmorrhage occurs in cases in which the liver is free from waxy degeneration.
7. That the occurrence of hæmorrhage increases the danger of the patient. But,
8. That sometimes it comes and goes for years without markedly depressing the vital powers.

In regard to treatment, Dr. Stewart adds, so far as he has yet seen, the diarrhœa and hæmorrhage appear to be better controlled by sedative and astringent enemata than by any other means.

Art. 17.—*On the Blue Line in Saturnine Affections, and its Pathognomonic Value.*

By Dr. Falot.

(*Archives de Médecine Navale*, t. ix., 1868; *Gazette Hebdomadaire*, No. 15, 1868.)

Dr. Falot refutes the authors who believe that the blue line along the gums is formed by an accidental deposit on the buccal mucous membrane of lead furnished by dust contained in the air or food, or still more in fluids that have been adulterated or accidentally charged. According to M. Grisolle among others, the blue line is the livery of the lead-worker, not a symptom of poisoning, but a simple deposit, and a sign of the worker's occupation. M. Falot quotes the observations of Beau, Barlow, Gregory Smith, and Lecoq, all of whom observed the

blue line in patients undergoing an internal treatment with pills of subcarbonate or acetate of lead; and he gives in addition the reports of some cases of his own, which were gathered in an epidemic of colic in a ship's crew at the Gaboon, the cause of which was lead-poisoning. Finally, after having established by experiment the impossibility of reproducing the blue line artificially, by touching the gums corresponding to the incisor and canine teeth of the lower jaw with a brush dipped in acetate of lead, and after having proved that oxygenated water and water sharpened by sulphuric acid, the ordinary reagents of lead, had no influence upon the blue line when it is plainly established, Dr. Falot proves that the line is the result of an elimination of the lead, and indicates by its manifestation that the lead, carried along by the circulation, comes to be deposited in the tissue of the gums, where it forms a combination which reveals its presence by a more or less intense blue coloration. M. Falot finishes his contribution by representing the blue line as a sign of the penetration of lead into the economy, and he derives the important conclusion for forensic medicine, that its presence may denote lead-poisoning, although an analysis of the viscera may not have revealed the smallest trace of the metal.

Art. 18.—*On the Diffusion of Trichina Spiralis.*

By T. S. Cobbold, M.D., F.R.S.

(*Proceedings of the Linnæan Society*, vol. ix., No. 36; and *British and Foreign Med.-Chir. Review*, April, 1868.)

The author performed numerous experiments by feeding various animals with trichinous flesh. His results correspond very closely with those obtained by investigators on the Continent. Thus, H. A. Pagenstecher and C. J. Fuchs found that ingested muscle trichinæ acquired sexual maturity within the intestinal canal of birds; but they never found young trichinæ in the muscles of birds, nor did they perceive any evidences of an attempt on the part of the escaped embryos to effect a wandering or active migration on their own account. So seven experiments performed by the author on birds gave negative results. No trichinæ were found either in the muscles or in the intestinal canal. Not a few persons entertain the notion that trichinæ are liable to infest all kinds of warm-blooded and even also many kinds of cold-blooded animals, such as reptiles and fishes. Certain nematodes found in earthworms have been described as trichinæ, and consequently, pigs and hedgehogs were said to become trichinous through eating the annelids. The minute flesh-worms (described by Bowman) from the muscle of the eel are not true trichinæ, any more than the somewhat similar parasites (*Myoryktes Weismanni*) which Eberth found to infest the muscles of the frog. The negative results obtained may therefore fairly be taken as positive, in one sense, inasmuch as they help, with the aid of other experiences, to define the area of distribution legitimately assignable to *Trichina spiralis*. The author obtained positive results in dogs, cats, pig, guinea-pig, and hedgehog. Carnivorous mammals, and especially those which subsist on a mixed diet, appear to

be most liable to entertain trichinæ; nevertheless it is quite possible to rear flesh-worms in herbivora. Pagenstecher and Fuchs succeeded in rearing muscle trichinæ in a calf, and they found three female intestinal trichinæ in a goat, but apparently no muscle flesh-worms, although twenty-seven days had elapsed since the first feeding with trichinized rabbit's flesh. In three sheep experimented on by the author no trace of trichinæ could be found. In their natural state it is clear that herbivorous mammals can seldom have an opportunity of infesting themselves, whilst the reverse is the case with swine, carnivorous mammals, and man. Other parasites, the common fluke, for instance, are limited to a larger or smaller number of hosts; whilst, on the other hand, in not a few cases, the territory occupied is that of the body of a single species. The two most common cestodes liable to infest man have a very limited distribution; and the same is true of nematodes, *Oxyuris vermicularis* being confined, as far as is known, to man. The author adds that in England ordinary precautions will suffice to prevent the introduction of trichiniasis. English swine are almost entirely, if not absolutely, free from this disease, and not a single case of trichiniasis in the living human subject has been diagnosed in the United Kingdom. Some twenty or thirty cases have been discovered post-mortem; but it is most probable that all these individuals had contracted the disease by eating German sausage or other preparation of foreign meat.

Art. 19.—*Dropsy: its Pathology, Prognosis, and Principles of Treatment.*

By George Johnson, M.D., F.R.C.P.

(*British Medical Journal*, March 7.)

In general terms, the proximate cause of dropsy may be said to be—1, a mechanical impediment to the circulation of the blood, and a consequent over-fulness of some part of the vascular system; thus the pressure of enlarged cancerous glands or of an aneurism on the femoral or popliteal vein, or the pressure of the gravid uterus on the iliac veins, or structural disease of the liver, especially an advanced stage of cirrhosis; 2, an alteration of the physical condition of the blood, either (*a*) an excess of the watery part, with a relative deficiency of the solids, as in cases of extreme anæmia; or (*b*) an accumulation of excrementitious materials, especially of urinary constituents; a case of acute febrile dropsy is a type of this class of dropsies.

In a large proportion of cases of chronic dropsy, all the above conditions coexist and co-operate. There is an impeded circulation of blood; and the blood is physically altered, both by containing a relative excess of water, and by being contaminated with retained excreta. In the great majority of cases, chronic general dropsy is either cardiac or renal in its origin.

In cases of cardiac dropsy, the starting-point of the malady is a damaged valve, either the mitral or the aortic, or both. Sooner or later, this valvular defect seriously impedes the circulation, the whole systemic

venous system becomes distended, and, as the circulation through the kidneys becomes obstructed, there is a scanty secretion of urine, which is sometimes also albuminous. It is obvious that, *cæteris paribus*, the amount of urine secreted depends upon the quantity of blood which circulates through the kidneys. Ligature of both renal veins—an experiment which has often been performed on the lower animals—causes a speedy and complete suppression of urine; and so, when cardiac disease obstructs the general circulation, the secretion of urine will be scanty in proportion to the degree in which the blood is impeded in its passage through the kidneys. Thus, a scanty secretion of urine, and a consequent accumulation of water and of urinary excreta in the blood, are the immediate precursors and the proximate cause of that which is rightly called cardiac dropsy.

In cases of *chronic renal dropsy*, the blood is physically much changed. It contains an excess of water; it is deficient in its own normal constituents, especially albumen and colouring matter; and lastly, it is more or less contaminated by retained urinary excreta. As a rule, patients with chronic renal disease are liable to become dropsical in proportion to the abundance of albumen in the urine and the scantiness of the watery secretion by the kidneys. In cases of what is called the chronic desquamative disease—the small red granular kidney—a form of renal degeneration in which the urine is copious and contains but little albumen, there is commonly no dropsy, or very little. On the other hand, dropsy is a very frequent and prominent symptom in those cases of Bright's disease where the kidneys are large, pale, and waxy or fat, and which are associated with a scanty secretion of highly albuminous urine.

The various kinds of dropsy may be arranged in two classes: 1, the acute, active, or febrile; 2, the chronic or passive. Acute febrile dropsy not only comes on rapidly, but it also manifests itself simultaneously in the subcutaneous tissue over the whole body—face, trunk, and limbs. The blood in these cases is suddenly contaminated with retained excreta; there is consequently a universal capillary engorgement and an active transudation everywhere through the walls of the vessels. On the other hand, chronic passive dropsy, whether cardiac or renal, not only comes on slowly, but it usually begins in the feet and thence gradually extends upwards. The reason is, that the venous obstruction and the capillary engorgement are greatest in the most dependent parts, from which, in the erect posture, the blood has to ascend against the force of gravity. The liquid, too, after it has been effused into the areolar tissue, tends to gravitate downwards, so that the position of the dropsical effusion is greatly influenced by the posture of the patient, as well as by external pressure.

It is almost too obvious to require mention that the acute and the chronic forms of dropsy merge into each other by imperceptible gradations. An acute dropsy may gradually assume the chronic form; and on the other hand, as a result of exposure to cold, a chronic dropsy may suddenly take on the characters of an aggravated acute attack.

The *Prognosis* in cases of dropsy differs extremely according to the nature of the disease, of which the dropsy is a symptom. The notion that dropsy is essentially incurable is happily an erroneous one. Some

forms of dropsy are curable with ease and certainty. The slight œdema which frequently accompanies chlorosis usually yields at once to appropriate treatment. Cases of acute renal dropsy, if they come early under treatment, generally end in complete recovery. The cases in which the prognosis is most unfavourable are those in which the dropsy is dependent on advanced chronic disease of the kidney or organic disease of the heart. The prospect is especially unfavourable when both the kidneys and the heart are implicated, but even in cases of incurable organic disease of the heart, or kidney, or liver, a temporary removal of the dropsy may not uncommonly be effected.

In the treatment of dropsy there are two objects to be aimed at: these are, first, to remove, if possible, the original and exciting cause of the dropsy; and second, to remove the dropsical accumulation. If the first of these objects can be accomplished, the second is generally attained with it. The dropsy will soon disappear with the removal of its exciting cause. For instance, the slight anasarca which occurs in chlorotic young women is a result mainly of the poor and watery condition of the blood; and the dropsy quickly passes away when the quality of the blood is improved by nutritious diet, fresh air, and exercise, with the use of iron as a tonic, and perhaps an occasional aperient.

In the treatment of acute renal dropsy, the patient we will suppose to be placed in circumstances favourable for recovery: he is confined to bed; has a scanty diet; the loins are dry-cupped, or mustard and linseed poultices are applied there; and means are taken to excite the secretory action of the skin and bowels, and thus to lessen the work of the kidneys. Soon the secretion of urine begins to increase until, in the course of four or five days perhaps, the quantity of urine, which at first had been less than half the natural amount, becomes three times as great as the standard quantity, no diuretic medicine of any kind having been given.

The explanation of this spontaneous diuresis appears to be this. During the acute stage of the renal disease, the constituents of the urine, both solids and liquids, have accumulated in the blood, and have thence been effused into the areolar tissue and into the serous cavities. Now, urea itself is a most powerful diuretic; and no sooner is the inflammatory congestion of the kidney removed, and the freedom of the renal circulation restored, than the urea exerts its natural diuretic action on the kidney. The copious diuresis thus induced speedily removes the accumulated urinary solids and liquids from the blood, the areolar tissue, and the serous cavities, into which they had been effused, and so the dropsy is cured.

This abundant flow of urine occurs without aid from diuretics or drugs of any kind. Stimulating diuretics, such as squills, or cantharides, or turpentine, are injurious, by increasing congestion of the kidney. The best diuretics in such cases are means which tend to lessen the congestion of the kidneys; counter-irritation over the loins, especially by dry-cupping; hot-air baths, and diaphoretics, purgatives, and a scanty diet.

In some cases of chronic renal dropsy, diuretics may be given without risk, but too often without much benefit in the way of removing or lessening the dropsy. A pleasant and efficacious diuretic is the

imperial drink made with lemon, cream of tartar and sugar, with the addition of gin, in the proportion of a wineglass to a pint. Hot-air baths often distress the sufferers from chronic Bright's disease; the skin does not readily perspire, and the body consequently becomes painfully heated; a daily packing for two or three hours in a wet sheet and blankets is better. In this way a more prolonged and copious diaphoresis is obtained, and that too with less distress, if not with actual comfort to the patient.

In the treatment of cardiac dropsy little or nothing can be done to repair a damaged valve, but much may be done to strengthen the muscular walls of the heart, and thus enable it to overcome the impediment to the flow of blood and the consequent tendency to dropsy which a diseased valve occasions. A combination of tincture of the perchloride of iron with tincture of digitalis is particularly useful in some cases of cardiac dropsy.

When other means fail to remove a dropsical accumulation, great temporary relief may be afforded and life prolonged, sometimes for a considerable period, by mechanical means—by tapping the abdomen, for instance, in a case of ascites; by acupuncture or incisions through the skin of the legs for the removal of anasarca.

The free action of a hydragogue—elaterium, for instance—is often followed by a copious secretion of urine. The gorged vessels are partly unloaded by the drain of liquid from the bowels; the circulation through the kidneys, as through other organs, consequently becomes more free; and hence a copious secretion of urine, and a rapid diminution or even a complete removal of the dropsy.

Art. 20.—*The Artificial Production of Tuberculous Disease.*

By J. Burdon Sanderson, M.D.

(*The Lancet*, April 10.)

The subject of the production of disseminated tubercle artificially by inoculation was brought before the Pathological Society on the 7th April, by Dr. Sanderson, in a very important communication. In co-operation with Mr. Simon, Dr. Sanderson has been watching, in guinea-pigs, the effects not only of the introduction into the subcutaneous tissue of tuberculous and pyæmic matter, but of mechanical irritation. In the first place, Dr. Sanderson confirms the results of previous observers as to the identity of the morbid process produced by inoculation experiments with that which we recognise in phthisis. But the remarkable point shown by the present series of experiments is this, that when the products other than tubercular are used for injection the result is the same, in the case of mere local irritation likewise—with a seton, for example,—provided the action of the agency be not so severe as to cause early death, and sufficient to induce decided change in the local nutrition of the part operated on. Having explained this much, Dr. Sanderson handed round specimens of liver, cellular tissue, glands, lung, and other organs, showing the various changes artificially produced. In regard to the cellular tissue, there are found induration, abscess in the centre of

the latter, and small secondary abscesses in large numbers around. The microscope shows the induration to consist of nuclei or corpuscles entirely spherical, and the central part to be pus, a large number of "farcy cords" being present also. The glands in connexion with the inoculated spot are always affected; they are hyperplasmic, and the contents undergo caseous degeneration. In the lungs, grey granulations having the features of miliary tubercles are found, and the microscope detects a central portion consisting of round nuclei in a stroma, and an outside portion consisting of the thickening of the parietes of the alveoli, caused by the production of nuclear bodies, and epithelial accumulations and pigment-granules in the cavities; the principal seat of change being therefore in the walls of the alveoli, as indicated by the presence of nuclear corpuscles in a site where none exist normally. The liver is found to be enlarged, and to be invaded by new deposits (the same as that before described as seen in the lungs) around the branches of the bile-duct and the veins—an interlobular growth throughout the liver. Lebert calls it interlobular inflammation. Dr. Sanderson names the deposit adenoid tissue, because it bears resemblance to the pulp of lymphatic glands. In the peritoneum the same kind of foreign material is observed, apparently unconnected directly with the arteries. As we have said before, these pathological results are the same whatever be the matter used, and if only local irritation be employed to cause glandular irritation. The conclusions to which Dr. Sanderson's experiments lead are clearly these, if the produced deposit be allowed to be true tubercle: that there is no specific virus or materies morbi in phthisis; and that, in the process of miliary deposit, the first step may be somewhat allied to, if not identical with caseation of the inflammatory product in lymphatic glands, as stated by some of the continental authorities. Dr. Bastian, in the discussion, took exception to the identity of the deposit in Dr. Sanderson's preparations and true tubercle. Mr. Simon, however, in the remarks he made upon the matter, specially referred to this point and the difficulty of defining the meaning of tubercle. It cannot be but intensely interesting, as he said, that a disease corresponding with what our present knowledge depicts as tubercle should be produced extensively throughout bodies of rodent animals by common irritation. It seems that Sir James Kay Shuttleworth, many years ago, in experimenting with the subcutaneous injection of mercury, was struck with the production of a condition like tubercle in different parts of the body. The subject is extremely interesting, and Dr. Sanderson has earned for himself such a reputation for accurate and patient research as entitles him to belief beyond the average.

Art. 21.—*The Hypodermic Injection of Morphia in Gout and Pleurisy.*

By Thaddeus L. Leavitt, M.D.

(*American Journal of the Medical Sciences*, January, 1868.

Upon being summoned to visit a patient, aged about fifty-five years, afflicted with the most intense pain in the knee-joint, from an attack of

gout, to which disease he had been a victim for the last six years. Dr. Leavitt immediately injected beneath the skin, in the locality of the seat of pain, the third of a grain of the acetate of morphia in solution, which was followed by the most delightful results; in three minutes the intensity of the pain diminished, and in ten minutes had almost ceased, the patient expressing himself in glowing terms as to the efficacy and promptness of this new remedy. The night was passed most comfortably, no return of the paroxysm occurring. The bicarbonate of potassa and colchicum being also administered, the attack was shortened, and the patient rallied rapidly, having none of the depression and debilitating effects, the resultant of long-continued pain, to recover from, as in former times.

Subsequently, an attack in the left hand was treated in the same manner, with like satisfactory result.

This being the only case of gout in which up to the present date Dr. Leavitt has had an opportunity to test this application, it is merely recorded for what it may be worth in the future; the pleasing experience gained, however, being to his mind sufficiently satisfactory to warrant its repetition in other cases.

In *all* conditions of acute suffering, pleurisy, acute rheumatism, angina pectoris, &c., no remedy is so prompt and efficient as the hypodermic use of the morphia salts.

Mrs. Martha F., æt. forty years, was seen February 17, 1867, for the first time; a well-marked case of acute pleurisy. The pain was most intense; great dyspnœa existed; sharp, lancinating pains at each rapid inspiration completely prostrated the patient, whose sufferings had been continuous for twelve hours. About one-sixth of a grain of the acetate of morphia was used hypodermically, and with prompt relief, a few minutes only elapsing after its injection before its beneficial results followed. The ordinary treatment being continued, a recovery was effected in a short time.

This one case, Dr. Leavitt says, serves to illustrate the success of the application, and renders unnecessary the recording of several other cases of like import.

SECT. II.—SPECIAL QUESTIONS IN MEDICINE.

(A) CONCERNING THE NERVOUS SYSTEM.

ART. 22.—*Aphonia of nearly Two Years' Duration Cured by Electrical Stimulation of the Inferior Laryngeal Nerve.*

By Dr. PHILIPPEAUX.

(*Revue de Thérap. Médico-Chirurgicale*, No. 16, 1867, and *Edinburgh Med. Journal*, January, 1868.)

Various methods of treatment had been unsuccessfully tried in a case of aphonia which had originated two years previously, and which was supposed to be due to paralysis of the nerves of the vocal cord. The patient was a healthy female, twenty years of age. It was ultimately decided by Dr.

Philippeaux to try the effect of electrical stimulation, applied in such a way as to directly influence the inferior laryngeal nerves. For this purpose, one metallic pole was inserted into the lower and posterior portion of the pharynx, and the second was placed on the skin over the crico-thyroid muscles. A current of considerable strength was passed between these two points: almost immediately after the closure of this current the patient started, uttered a loud cry, and began to speak with a facility equal to that which she had possessed before the commencement of the aphonia. Dr. Philippeaux remarks that he has frequently met with success in treating aphonia by electricity, but never before had he the good fortune to obtain so instantaneous and perfect a cure.

Art. 23.—*Aphasia and Agraphia.*

By William Ogle, M.D.

(*St. George's Hospital Reports*, vol. ii., and *Edinburgh Med. Journal*, January.)

The object of this interesting paper is to examine how far the pathological records of our hospitals harmonize with the doctrine that the faculty of articulate speech is inseparably connected with a certain limited portion of the left hemisphere, namely, the posterior part of the inferior or third frontal convolution.

It is stated by Broca that the portion of the brain in question has never yet been found in a state of disease without impairment of the faculty of articulate speech, or, as it is now termed, "aphasia;" and that a like statement cannot be made of any other portion of the convolutions. Secondly, it is also stated that true aphasia never occurs unless either this part be itself diseased, or those portions of white matter by which it is connected with the parts below. The former of these two propositions Dr. Ogle believes to be uncontradicted. There is no case, so far as he knows, on record, in which the disease of the posterior part of the third frontal convolution on the left side has co-existed with the integrity of speech. Still, it is not impossible, he thinks, that such a case may arise, and such an exception would not be a sufficient refutation of the theory. There is good reason to believe, he says, that in some few individuals it is on the right side, and not on the left, that the central organ of speech is situated, and therefore no single case would be a perfect refutation of this first proposition, excepting one in which there was a lesion both on the right and left side.

The second proposition is more open to question, for we do not know with precision how the fibres run which connect any given portion of the convolutions with the organs below. A series of most interesting cases is given in illustration of the subject, and in all of them, twenty-five in number, speech was lost or much impaired, while, at the same time, every one of the patients had disease of the left hemisphere. In the registers of St. George's Hospital, there is not one single case in which speech was seriously impaired and the left side of the brain found sound. The left hemisphere, then, being specially concerned in speech, the next question is, Are all the parts of it equally so, or is this faculty located

some limited portion of it, as Broca would have us believe? Dr. Ogle thinks that the organs of language are, if not in the exact position which Broca has assigned to them, at all events in close proximity to it; and this opinion is borne out by the post-mortem examinations in the cases quoted in this paper.

Art. 24.—*On Locomotor Ataxy.*

By C. B. Radcliffe, M.D., F.R.C.P.

(*Reynolds's System of Medicine*, vol. ii., and *British Med. Journal*, April 18.)

For locomotor ataxy (the old tabes dorsalis), Dr. Radcliffe does not advise any special treatment beyond sustaining the general health, and meeting any special indication, such as syphilis, or gout, or rheumatism, or struma. He would attain the object of rest by the assistance of crutches, especially in the early stages, and supply the place of muscular exercise by electricity. He attributes the disease to functional loss of power of the spinal cord.

Art. 25.—*Locomotor Ataxy.*

(*Translated from the German of Althaus in the Deutsches Klinik*, 1866, *for the Quarterly Journ. of Psychological Med. and Med. Jurisprudence*, July, 1867.)

We may adopt, with Duchenne, three stages of this disease. The first lasts from four to five years, and is characterized by troubles of the cranial nerves, by peculiar pains, and a decrease of the generative power. The second stage lasts ten years or more, and is signalized by the appearance of ataxia and decreasing sensibility. To these symptoms is to be added paralysis in the third stage, and death ensues by exhaustion, or some intercurrent disease. The affection is from the beginning either chronic or subacute. The cranial nerves are first attacked, *i.e.*, the optic, the motores oculorum, trochlearis, the abducentes (amblyopia, diplopia, strabismus, ptosis). The ophthalmoscope ascertains the symptoms of congestion (expansion of the capillary vessels and violet colouring of the membrane) and afterwards (in amaurosis) an atrophy of the retina. As to its prognosis, is to be remarked that strabismus or diplopia may disappear even without treatment, while ptosis or amblyopia will not. The pains of such patients are described as jerking, suddenly appearing and disappearing. They are generally located in the lower extremities and are paroxysmal. If the pain occurs in the bladder, a vesicular catarrh will soon supervene. These pains diminish in spring, but increase after fatiguing walks, and especially after venereal and alcoholic excesses. An important, but not constant symptom, is spermatorrhœa, first with and afterwards without erections; exceptionally, priapismus and satyriasis will occur. There is sometimes, in the second stage, besides strangury, incontinence of urine and inability to retain the fæces, and symptoms of ataxia appear on a sudden or by degrees. The still vigorous muscles react no

longer normally upon the emotional impulse, the equilibrium is lost, complicated motions can no longer be effected. There are two co-ordinate kinds of muscular activity, viz., the harmony between the antagonists, and the instinctive, or emotional muscular actions. In the latter the antagonists do not remain inactive, but every intended motion results from a twofold nervous action, so that one group of muscles produces a motion, while another moderates it. In progressive ataxia, the capacity for controlling the muscular actions is lost first, although every single muscle may still be contracted, and though even certain associated motions may succeed. Separate muscular contractions, however, do not occur in a normal condition; most of the muscular actions require a great number of simultaneous muscular contractions to which we accustom ourselves from childhood, and every child suffers, as it were, by ataxia without being aware of it. Now these associated muscular actions take place in adults instinctively without any special emotional impulse, and if this capacity is gone, we have a case of ataxia before us. It begins mostly in the lower extremities, the gait of the patient becomes faltering (as with many inebriates) and this infirmity is constantly on the increase; if you cause the patient to stand on his feet joined closely together, he begins to sway to and fro, particularly when his eyes are closed. Still this swaying does not in every case indicate ataxia, since it also occurs in different diseases of the brain, with feeble, very anæmic persons and infirm convalescents. These symptoms increase by walking, especially when the patient wishes to turn round, in which case the feet are tossed to and fro without purpose, and become useless. Irregular muscular contractions will also take place.

The patient is, while lying down, able to stretch and bend his feet, but he does so suddenly by fits and starts, and can no longer calculate the strength required. The differences from paralysis are obvious: sometimes there is weakness of motion connected with a sensible use of it, sometimes there is sufficient, or even abundant strength, without any power of using it to some definite purpose. These symptoms are far less marked in the upper extremities, the muscles of which may be tested by causing the patient to touch his nose or to make the sign of a cross while he keeps his eyes shut. Sensibility appears disturbed, the feet seem benumbed and heavy, with or without loss of the cutaneous sensibility, this loss manifesting itself in the soles and passing over to the chest, stomach, and the ulnar side of the upper extremities. In ataxia the soles and legs are almost constantly benumbed; this not being so, renders a diagnosis of ataxia doubtful. The decrease of this abnormal feeling indicates improvement. Anæsthesia occurs frequently, but only at a late period and not constantly, but the sensibility of touch never becomes extinct (analgesia, anodynia). The sense of touch is frequently everywhere diminished, and the patient needs often several minutes before he perceives the impression of touch; the reflex movements are therefore defective or entirely wanting. The influence of temperature is seldom impaired, but the patient may become unconscious of it, for it is known that patients, supposing they were going to take a tepid bath, have been scalded. The ability of distinguishing weight, too, is diminished, for such as suffer by ataxia cannot, like

healthy persons, discriminate between a weight of 29lbs. in one hand and 30 in the other. As this ability may, in the soles of the feet, be diminished, so that the gait becomes faltering, the diminution or absence of this ability has likewise been considered the cause of the faltering gait of persons attacked by ataxia. All the symptoms mentioned above increase in the last stage of this disease, while the muscular power decreases; the muscles become atrophied, convulsions take place, amaurosis, palsy of the bladder or some intercurrent disease puts an end to the sufferings of the patient. It is a singular fact that the disposition of mind of such patients is quite cheerful, notwithstanding all their sufferings.

Regarding the *causes* of this disease, we observe that the greater part of the patients were from thirty to fifty years old, and that this disease affects more men than women. Hardship, cold, and dampness are rightly considered to produce it. The suffering is almost constantly aggravated in autumn and winter: if there is an improvement in this period, it may properly be attributed to the treatment of the disease. It is not yet ascertained whether venereal excesses are connected with the origin of this disease, they are at any rate not its principal cause, as was formerly thought to be the case. Over-exertion and nervous diseases of the parents are certainly additional causes.

The *diagnosis*, doubtful in the first stage, becomes very easy in the second, even if all symptoms other than ataxia of the muscles are wanting; in the third stage ataxia does no longer exist by itself, as the degeneration of the spinal marrow extends already to the spinal arteries. Ataxia *might be mistaken* for: 1. *myelitis*, in which, however, palsies may occur, but not ataxia; there is no sympathetic affection of the cranial nerves, but pains in the back, spasms and muscular atrophy occur. 2. *Diseases of the cerebellum*, in which a condition similar to ataxia may appear, although the inclination to running forward or backward is more frequently noticed. Important distinctive symptoms are the fixed pain in the occiput, vomiting, a more indolent affection of the cranial nerves, convulsions and the epileptoid symptoms, all of which are absent in ataxia. 3. *Softening of the brain*, in which, however, hemiplegia, loss of memory and mind take place. 4. *Chronic poisoning by alcohol, lead and mercury*, as well as syphilitic affections of the brain, in which diseases we must use anamnestic medicines and apply a treatment *ex juvantibus et nocentibus*. 5. *Palsy of the muscular sense*, a symptom common to different affections; but here the patient is completely palsied as soon as the eye (representing the muscular sense) does not act any longer; as soon as the patient shuts his eyes or is in the dark, he is palsied; the muscular power is retained, as in ataxia, but the patient can effect motion only in daylight and with open eyes.

Prognosis. Romberg's despairing warning against any therapeutics as merely aggravating the disease, has been repudiated by experience. Even in advanced cases the sufferings of the patients may still be considerably alleviated. Intercurrent diseases impair the prognosis. Two facts encourage the physician to therapeutic interference: first, that the symptoms affecting the cranial nerves (excepting the optic) disappear in time, so that there exists a functional stage of the disease,

before the physical changes in the spinal marrow occur, in which stage medicines may accomplish much; second, that Charcot and Vulpian found, in a case of ataxia, some nerve fibres in the spinal marrow which were evidently in a stage of regeneration.

Treatment. If the patient is feeble, declining, anæmic, prescribe, besides nutritious food, iron, quinine, cod liver and milk, which latter Hippocrates has recommended for erotic tabes. If great exertions have preceded, rest is imperatively required. Counter-irritants applied to the back must be wholly avoided, but the constant electric fluid may be passed along the vertebral column. Iodine should not be employed, but iodide of potassium and iron may be used, although they may not cure the disease. Baths may be recommended, but ataxic persons should not travel a great distance for them, but rather drink mineral water and take sulphuretted baths at home. Faradization is of no use, galvanization avails against some symptoms without curing the disease. The most reliable of all curative agents is still the arg. nitricum given at the rate of $\frac{1}{10}$ to $\frac{1}{2}$ gr. two or three times a day, which may be administered in connexion with phosphate of lime 10 to 20 gr. pro die). This medicine may in such a dose be given without danger, especially if you discontinue it for a fortnight after every four weeks, and give a purgative instead. I pay close attention to the condition of the gums. We must, in general, take care not to treat this disease according to one rule, but sharply individualize, as in all other diseases.

Art. 26.—*On Vertigo.*

By T. Spence Ramskill, M.D., F.R.C.P.

(*Reynolds's System of Medicine*, vol. ii., and *British Medical Journal*, April 18.)

Dr. Ramskill treats vertigo, if from gastric causes, with alkaline purgatives at first, followed by a course of strychnia; "essential vertigo" he finds most benefited by iron and strychnia, alternated with tincture of larch and digitalis. He attributes, in fact, the former to weakness of stomach, and the latter to atrophy of the heart. Two other usual causes of vertigo are overwork and old age; very rarely disease of the brain.

Art. 27.—*On Apoplexy.*

By Samuel Wilks, M.D., Physician to and Lecturer on the Practice of Medicine at Guy's Hospital.

(*Medical Times and Gazette*, May 9.)

In this paper the author points out how erroneous is the opinion that apoplexy (that is, effusion of blood on the brain) is suddenly fatal. The case of shortest duration of which he knows is where an effusion of blood occurred on the brain, and the patient was dragged through the street, and survived only an hour.

This opinion has been promoted by another delusion, which is this: that persons of a certain configuration are prone to apoplexy. It is said that the pattern of body which is most prone to apoplexy is denoted by a large head and red face, shortness and thickness of the neck, and a short, stout, squat build. A man with a red face has no more blood in his brain than another: it is a mere idle fancy; it is the associating two things together in our imagination which have no real connexion. It is like the association of hydrophobia with the dog days, these being named after the star Sirius, which is to be seen in our winter nights, or the erroneous belief that fever is most prevalent in summer. The fact is, that blood is poured out in the brain because a vessel has burst. The person in whom the vessels are diseased is consequently he in whom apoplexy is most likely to occur. Such a person is often pale and thin, with a long neck.

If a small amount of blood be effused into either of the head centres, producing hemiplegia, and no further result follow, the patient gradually recovers. The paralysis of the face soon passes off, and if it be on the left side the patient is soon enabled again to speak, although the paralysis of the arm and leg remain.

In most cases, however, a very lengthened time is required for recovery to occur, and this is only partial; as the blood is absorbed, the parts again come into order, and their function is resumed. But since some of the conducting fibres are absolutely severed, it is impossible that motion will ever be perfectly restored. As a rule, the leg recovers before the arm, but at the end of some months nearly all hope is gone of either limb permanently recovering if not restored by that time.

Now what becomes of the clot? The blood disintegrates, it becomes yellow, ochry, or coffee-coloured; the corpuscles break up, and out of the colouring matter crystals form; these take at least a fortnight to form. Whether a true cicatrix may follow is doubtful; more generally some inflammation occurs around the clot, a lymph is poured out which hardens, and thus a cyst is often produced. In a person who has been long hemiplegic a small cyst containing fluid may be found in the corpus striatum or thalamus, or a brown spot may be seen looking like a cicatrix, the remnant of the dried-up clot. In some cases of effusion of blood in the brain it may be useful to ascertain the time of the seizure; the presence of crystals may assist us in the inquiry, as they seldom are found before two or three weeks. These crystals, which spontaneously form, are called hæmatoidin, and differ from the hæmine crystals which are formed artificially by acetic acid. The latter are small rhombic plates with acuter angles, whilst the former, which form spontaneously, are much larger and broader crystals, and of a deep ruby-red colour.

If this process of recovery do not ensue, a softening may gradually go on until neighbouring parts of the brain are involved, and then further symptoms arise. The emotional powers are readily excited, as if little under the control of the patient; but whether the disease has or has not in these cases proceeded beyond the region of the ganglia Dr. Wilks is not quite certain.

Art. 28.—*On Sunstroke.*

By William Campbell Maclean, M.D.

(*Reynolds's System of Medicine*, vol. ii., and *British Medical Journal*, April 18.)

For sunstroke, Professor Maclean is satisfied that the modern plan of management by the cold douche, the stimulation of the bare scalp with cantharides, and the internal administration of quinine (Warburg's tincture), saves many lives which formerly fell victims to the lancet.

Art. 29.—*A Lecture on Cases of Cerebral Hæmorrhage.*

By J. Hughlings Jackson, M.D.

(*London Hospital Reports*, vol. ii., and *Brit. and For. Med.-Chir. Review*, January, 1868.)

This lecture is founded upon and illustrated by some cases of cerebral hæmorrhage, but it also enters generally into the causes, symptoms, and diagnosis of that affection. Paralysis is a common symptom of cerebral hæmorrhage, but the amount of paralysis depends upon the damage done to the motor tract; and if this part of the brain is but little injured, there will be very little paralysis, or it may even pass off. But when the corpus striatum is the seat of the hæmorrhage, as is often the case, there will be marked paralysis, the corpus striatum, thalamus opticus, and crus cerebri, being all parts of the motor tract; while if the mass of the hemisphere above the ventricle is the seat of the effusion, there need be no paralysis at all. Dr. Jackson contends, however, that cerebral hæmorrhage ought not to be regarded as only a local affection, but that it should be considered in connexion with the general disease of the arteries throughout the body, and with pre-existing or concomitant morbid conditions in other organs, as the kidneys, liver, heart, &c. Even the examination of the retina by means of the ophthalmoscope affords valuable information in reference to cerebral hæmorrhage, because the condition of the retinal vessels enables the observer to detect tissue changes which may be generally present throughout the system. As cerebral hæmorrhage is not so much a local disease as a local manifestation of a general morbid condition, it follows that special medication of the brain is not likely to be beneficial, and that when recovery from paralysis ensues the result is rather due to the patient's general condition than to the treatment adopted. When the system is not much impaired recovery may be hoped for; but when there is considerable disease in other viscera the prognosis must be unfavourable.

Art. 30.—*On Hysteria.*

By J. Russell Reynolds, M.D., F.R.C.P.

(*A System of Medicine*, vol. ii.)

This disease the author very properly removes from the category of those connected with the sexual organs of the female sex, into which its

rarity among males had thrown it. That rarity he attributes to their having greater powers of will; led to that opinion by the successful cure of hysteria by cultivating powers of self-control, and the injury done by "uterine" remedies, and by anti-hysterics, when the real moral management is neglected to make way for them. The physical pathology of the disease he lays in deterioration of the general health, impaired nutrition, and a feeble circulation, with exhausted brain.

Art. 31.—*Cases of Delirium Tremens, with Clinical Remarks.*

By Dr. Fraser.

(*London Hospital Reports*, vol. ii., and *Brit. and For. Med.-Chir. Rev.*, January, 1868.)

In this article Dr. Fraser relates the particulars of several cases of delirium tremens occurring in the London Hospital, and he makes some practical remarks upon the treatment which he has found most efficacious. He appears to rely chiefly on the use of stimulants and the administration of opium, his own experience showing that the greatest success followed that mode of treatment. He, however, tried the effects of digitalis; but all the cases witnessed by him in which that drug was tried in the treatment of delirium tremens, were unsuccessful. In reference to the treatment of the disease without stimulants, he has witnessed only a tolerable amount of success, and he gives the number of cases so treated which have fallen under his own observations and their results, showing that those cases did best in which a moderate amount of stimulation was resorted to.

Art. 32.—*On Alcoholism.*

By Francis Edmund Anstie, M.D., F.R.C.P.

(*Reynolds's System of Medicine*, vol. ii.)

In his article on alcoholism, Dr. Anstie tells us that in delirium tremens the desired abstinence from alcohol, which is the goal of treatment, may also be made its starting-point with complete safety, if only a sufficiency of nutritious food be offered to the absorbents. To this end, he gives milk, soup, strong broth (*very hot*), by stomach or by rectum, or by both. This is imperative; and the chief evil of the alcoholic management of delirium tremens is its paralysing action on the digestion and circulation. For the same reason, he avoids large quantities of opium, and gives it only in small tonic doses. Of purgatives he approves, as a safe way of getting rid of the alcohol which impedes the absorption of food. Vomiting he checks by ice, soda-water, and milk, guarded with lime-water.

Of tartrate of antimony he has much dread, though he acknowledges

that success has followed its use in some cases, as well as most unfortunate results in others. The fatal terminations are due to the depressing effects of the drug on the circulation, of which the pulse as felt by the finger is an unsafe guide. He would restrict its use therefore to those who have first proved the strength of the heart by the application of Marey's sphygmograph to the patient raving in seemingly "active" delirium (a limited number, we should think).

In chronic alcoholism, he would counteract "the shakes" by doses of one grain of quinine and one thirty-second of a grain of strychnine two or three times a day, want of sleep by Indian hemp, and degenerative tissue-changes by the addition of cod-liver oil to the tonic. This prepares us to find Dr. Anstie dividing the pathology of alcoholism into three portions: 1, the morbid influence exerted by the poison on the mucous surface of the alimentary canal; 2, its devitalization of the blood; and 3, the consequent arrest of the nutrition of the nerves, especially of all tissues, on account of a certain chemical affinity for alcohol which they exhibit.

Art. 33.—*Delirium.*

By C. Handfield Jones, M.B., F.R.S.

(*St. George's Hospital Reports*, vol. ii., 1867.)

This paper contains the histories of eight cases, intended especially to illustrate the symptom of delirium. In the first case it was mainly the result of mental anxiety, and after the exhibition of a few doses of antim. potass. tart. gr. ss, with some morphia and henbane, the attack subsided. The second was a case of mania transitoria, which passed off in a few days. The third was hysterical delirium, which was quieted by chloroform inhalation. The fourth was epileptic. The fifth, slight delirium in a very debilitated subject following epistaxis. The sixth was the case of a stout man physically overworked, whose mind had suffered from a severe shock six years before, and from the effects of which it had never quite recovered. He was treated with strychnia, nitric acid and valerian, and other tonics, and recovered in a short time. Cases seven and eight were both fatal, the former a complication with fever and tuberculosis, the latter with convulsions. The author closes with remarking that delirium and convulsions are allied conditions; in both there is undue excitability and mobility. They may be taken as a type of irritation, which condition has the following features:—

"The part affected is *unduly impressionable*, is less tolerant of its natural stimuli than in health; its *functional energy is lowered*, it is less capable of doing its appointed work, but is much more readily set in action. At the same time, its *nutritive actions are deranged*, its secretions (if it be a secreting organ) are often increased, or morbidly changed, while its vessels participating in the general enfeeblement no longer duly regulate the blood-supply, or restrain their contents from exuding in excessive quantity."

Art. 34.—*Notes of Thirteen Cases of Delirium Tremens.*

By M. Thomas, M.D., formerly Medical Superintendent of the Barony Parochial Asylum and Poorhouse, Glasgow.

(*Edinburgh Medical Journal*, December.)

The cases of delirium tremens detailed by Dr. Thomas, were treated principally by means of tartar emetic. He was induced to adopt the use of this medicine by having observed its almost marvellous effect in a case which came under his observation whilst house-surgeon of the Greenock Infirmary in the year 1856. The case was sent in by Dr. James Wallace, who had at that time the charge of the medical and surgical wards. The patient, a gentleman from England, exhibited all the symptoms of delirium tremens; and various remedies were tried upon him fully and fairly without the slightest benefit. Having exhausted every other remedy, Dr. Wallace resolved to give tartar emetic in $\frac{1}{4}$-grain doses, as advocated by Dr. Peddie of Edinburgh; and the patient, who previous to its administration had shown no symptoms of amendment, fell asleep after the second dose, and, sleeping soundly for about eight hours, awoke perfectly recovered. The favourable impression then left on Dr. Thomas's mind has not since been eradicated by its further use; but the conviction has been strengthened that this medicine is a most potent weapon with which we are able to cut short in its career the course of this particular disease.

Art. 35.—*On Epilepsy.*

By J. Russell Reynolds, M.D., F.R.C.P.

(*A System of Medicine*, vol. ii., and *Brit. Med. Journ.*, April 18.)

Epilepsy, according to Dr. Reynolds, is best treated during the intervals of the attack by a variety of medicines which all agree in one particular; namely, that they are sedatives to the functions presided over by the medulla oblongata. All do some good; but bromide of potassium does more good than these all put together, and no harm to any of the hundreds of individuals to whom he has prescribed it, in doses of from ten to thirty grains. Counter-irritation, ice-bags, and a few other heroic remedies, he has found simply useless; we presume he meant to add—in cases where the bromide of potassium has failed. Dr. Reynolds views bromide of potassium as a "specific;" that is, as a curative agent incapable of classification or explanation—because bromine alone has no anti-epileptic effect, and other salts of potassium have no anti-epileptic effect. Dr. Reynolds's pathology of epilepsy depicts it as a perverted readiness of action in the organs at the upper portion of the spinal cord. This "perverted readiness," we presume, he holds to be of the nature of debility, for he thinks it a wise practice to try and ward off an immediately threatened paroxysm by stimulants.

Art. 36.—*A Lecture on the Pathology and Treatment of Epilepsy.*

By George Johnson, M.D., F.R.C.P., Physician to King's College Hospital; Professor of Medicine in King's College, &c.

(*British Medical Journal*, March 21.)

Dr. Johnson purposes upon the present occasion to attempt an answer to the following question—To what extent do the phenomena of an epileptic fit admit of explanation? In a fully developed epileptic fit, there are two chief phenomena to be explained: these are loss of consciousness and convulsions. The loss of consciousness, until within a very recent period, has generally been supposed to be a result of congestion of the nervous centres, and especially of the cerebrum. But this explanation is inconsistent with the fact, that the epileptic loss of consciousness comes on in a moment at the very commencement of the attack, when there is no evidence of congestion, and when the face is usually pale from anæmia. The congestion follows the loss of consciousness; and the explanation of its occurrence appears to be this. The convulsion implicates the respiratory muscles; the blood therefore, being imperfectly aërated, is impeded in its passage through the lungs; it consequently accumulates in the right side of the heart and in the veins. The congestion, therefore, is a secondary venous congestion; and, at the time when this congestion has reached its greatest height, there is often a commencing return of consciousness. Obviously, then, this congestion is not the cause of epileptic loss of consciousness. This retrograde venous engorgement is the cause of the ecchymoses beneath the skin and the conjunctiva, which often occur during a fit, and the hæmorrhage into the substance or upon the surface of the brain, which happily is a much less frequent accident.

A number of facts point to the conclusion, *that both the loss of consciousness and the convulsions of epilepsy are the result of sudden and extreme anæmia of the brain.*

Kussmaul and Tenner found (*On Epileptic Convulsions from Hæmorrhage*, New Sydenham Society, 1859) that an interruption in the supply of blood to the head of a rabbit, by ligature or compression of the arteries, produces epileptic fits as surely as hæmorrhage does.

They describe the effects of compressing the carotids in six men. In all, the face turned pale; the pupils first contracted and then dilated; the respiration became slow, deep, and sighing; then there was giddiness, staggering, and unconsciousness, and the patients would have fallen had they not been supported. "In two subjects, of weak intellect and moderately anæmic, in whom, notwithstanding the above symptoms, the compression was continued, a choking sensation, attended by vomiting and general convulsions, came on, which, however, did not attain an aggravated form, for on withholding the compression they disappeared in a few seconds." (Op. cit., p. 28.)

Compressing the carotids does not of course entirely cut off the supply of arterial blood to the brain; but these experiments render it probable that sudden occlusion of all the arteries of the head will as certainly excite epileptic convulsions in man as in the lower animals.

There is a class of cases in which a sudden arrest of the blood in its passage through the lungs causes convulsions and speedy death; cases in which the circulation is arrested by the admission of atmospheric air into the veins—cases of embolism of the pulmonary artery; again, cases in which the flow of blood through the lungs is stopped by the injection of certain salts into the veins; and lastly, cases of acute apnœa. When animals are killed by blowing air into the veins, the breathing becomes hurried, the animal falls down, and usually dies in convulsions; the contents of the bladder and rectum being frequently expelled at the time of death. Dr. John Reid states that, "in a very few cases only is death from this cause not preceded by convulsions." (*Physiological, Anatomical, and Pathological Researches.*) The immediate cause of death in these cases is the arrest of the frothy mixture of air and blood in its passage through the minute pulmonary arteries (the air rarely reaches the left side of the heart); and, as a result of this arrest, there is of course anæmia of the brain and of every other organ supplied by the systemic arteries.

Dr. Johnson next proceeds to inquire whether the phenomena of epileptic convulsions, as they ordinarily occur in the human subject, are consistent with the theory of anæmia. It is a matter of general observation that, at the very commencement of an epileptic fit, the face is pallid. There is anæmia of the superficial vessels; and with this there is probably associated anæmia of the intracranial vessels which supply the brain itself. The pallor is in most cases soon succeeded by lividity, owing to venous engorgement consequent upon the impeded respiration and pulmonary circulation. It is very remarkable that while the face is pallid, the heart and the carotids are beating strongly. It is probable, therefore, that there exists some impediment to the flow of blood through the minute branches of the arteries. To explain this impediment, Kussmaul and Tenner suggest that the minute arteries, both the superficial and the intracranial branches, contract so as to bar the passage of blood. Hence arise the pallor of the face and the epileptic convulsion. In some cases, it is said that the face is more or less livid at the very commencement of the fit. The probable explanation of this is, that the respiratory muscles are convulsed, and there is a consequent venous turgescence before the spasm affects the facial arteries. The spasm of the *facial* arteries, though usually present, is obviously not the cause of the fit. The early implication of the respiratory muscles is clearly shown in those cases in which the "epileptic cry"—a result of spasm of the glottis—is the first indication of the fit.

Kussmaul and Tenner endeavoured to support the theory of arterial spasm by experiment, and to some extent they succeeded. According to their theory epilepsy is a result of sudden anæmia of the brain; and this anæmia, when not caused by hæmorrhage or by a mechanical impediment to the circulation outside the cranium, is due to an extreme contraction of the minute cerebral arteries. With reference to this theory of arterial contraction, all cases of epilepsy may be arranged in two distinct classes: 1, cases in which the arterial contraction is the result of a purely nervous or reflex influence; 2, cases in which the arterial spasm is a result of blood-poisoning.

In the first class are included all cases of epilepsy which are due to emotional influence.

In the class of toxæmic epilepsy are included those cases in which noxious materials in the blood are the immediate exciting cause of the arterial spasm.

These two classes of epileptic cases have their analogues in the two varieties of laryngeal spasm. Spasm of the larynx may result from irritation of the brain, or of the gums, or of the alimentary canal; in short, it may be a purely nervous reflex *laryngismus stridulus*, which is closely allied to epilepsy. On the other hand, laryngeal spasm may be excited by a crumb of bread or a grain of salt, or other irritant, within the larynx; and this is analogous to the arterial spasm which is excited by toxæmia, and which may result in an epileptic fit.

In speaking of the sources of epilepsy, Dr. Johnson says they may be as numerous and as varied as the sources of apnœa, with which both as a cause and a consequence, it is so closely correlated. To prescribe for epilepsy without reference to its cause, is as unscientific as to prescribe for loss of voice without first ascertaining upon what conditions within the larynx or elsewhere the aphonia depends. As aphonia has for its immediate cause a defective vibration of the vocal cords, so the proximate cause of epilepsy is a defective blood-supply to certain parts or to the whole of the brain. The problem in each case is to ascertain the antecedent conditions and the circumstances which have led to the functional defect.

A priori considerations might have taught us what experience amply confirms; namely, that in the two classes of epileptic cases very different remedies are required. In the purely nervous cases, the indication is to remove all sources of irritation, whether mental or bodily, to soothe the nervous system by anæsthetics, and to impart vigour by a well regulated nutritious diet and by tonics. On the other hand, in the toxæmic cases, the primary object is to free the blood from noxious impurities. In effecting this object active eliminative and depletory measures may be required; as, for instance, in cases of uræmic poisoning. A local anæmia, the result of a toxæmic influence upon the cerebral arteries, may co-exist with a general vascular plethora. The argument that epilepsy cannot be a result of cerebral anæmia because it sometimes occurs in plethoric subjects and is sometimes relieved by depletory treatment, appears to me to be based upon a misapprehension of the terms of this most interesting pathological problem.

Dr. Johnson does not in this lecture enter into details as to the treatment of epilepsy; but there are two remedies upon which he desires to say a few words; namely, chloroform and bromide of potassium. It is a well known fact that chloroform inhalation has a remarkable power of arresting epileptic convulsions. Its action in warding off a threatened fit, and in cutting short a violent and prolonged paroxysm, is uniform and certain; as uniform and as certain as the influence of sudden and extreme anæmia in exciting convulsions. Dr. Johnson for a time supposed that the chloroform acts by relaxing the cerebral arteries; but Kussmaul and Tenner have shown that animals, when etherized, get no convulsions while being rapidly bled to death, or when their arteries are ligatured.

It is probable, therefore, that anæsthetic vapours prevent or stop convulsions by lessening the reflex excitability of the nervous system, so that convulsions do not occur in etherized rabbits, even though the brain be rendered extremely anæmic by hæmorrhage or by arterial obstruction.

Recent experience has amply proved that the bromide of potassium, in full and frequent doses and sufficiently long continued, is of great value in the treatment of epilepsy. The known physiological action of this medicine renders it probable that its curative effect in epilepsy is a result of its soothing, sedative, anæsthetic influence upon the nervous centres, whose reflex excitability it lessens. In short, its action in preventing convulsions is analogous to that of chloroform, differing in being less powerful and rapid in its operation, yet, by frequent repetition, its influence may be rendered more durable and more permanently beneficial.

Art. 37.—*On certain Epileptic Phenomena.*

By Edward Fox, M.D.

(*St. George's Hospital Reports*, vol. ii., 1867, and *American Journal of the Medical Sciences*, January, 1868.)

The author commences by stating that the division of epileptiform attacks into centric and eccentric is itself a fallacy. The attack may be eccentric at first, but it afterwards becomes centric. Of 112 cases there was aura only in ten. In many cases where there is no aura, there is a premonitory warning of the attack. This warning may be of very different kinds, but most of them are evidently due to local arterial spasm, either of the retinal artery, the anterior and middle cerebral arteries, or of those arteries on one side only, or of the vessels of the medulla oblongata; and the nature of the warning sensations seems to vary according as the loss of blood-supply occurs first in the anterior or posterior portions of the encephalon.

The occurrence of epilepsy without loss of consciousness may depend on the portion of brain affected by arterial spasm. The nervous centres that rule motion may be affected, while the external convolutions are free, just as we see many cases of the reverse.

In *le petit mal* the loss of consciousness is the prominent symptom, generally, however, accompanied by paralysis of the limbs; in this form there is no laryngismus or trachelismus, and the mental impairment is more rapid than in the grave attacks. The fit and the mental deficiency depend on the same cause; the former being the immediate result of the arterial spasm; the latter, the consequence of the malnutrition of the brain from the constant repetition of this spasm. In *le petit mal* the brain suffers more from the more frequent occurrence of the attack. He sums up with the following points:—

"1. In very many cases what the patient calls a warning of the fit is in reality the commencement of the fit itself.

"2. Epileptiform convulsions may occur without any loss of con-

sciousness, when there is no evidence of organic disease or of eccentric irritation.

"3. The brain suffers more rapidly in the various forms of *le petit mal* than in any other variety of epilepsy.

"4. Arterial spasm is the proximate cause of most of the epileptic phenomena, including clonic convulsions.

"5. Spasm of the arteries of the cerebral lobes is the cause of much of the mental impairment met with in this disease.

"6. Lucid intervals may occur dependent on a more constant blood-supply in the brain.

"7. The pathological appearances met with in the brains of epileptics are the effects of the attacks.

"8. The blood is the true seat of the lesion.

"9. Treatment should be directed to the improvement of the blood, and the relaxation of arterial spasm."

Bromide of potassium is spoken of as having been given in doses of twenty grains. In many cases it has been given with cod-liver oil. Dr. Fox believes that its chief action is the prevention of the tendency to arterial spasm; and in infantile convulsions, when the spasms persist after the removal of this apparent exciting cause, he has found it extremely useful.

Dr. Fox has notes, however, of ten cases in which the bromide failed wholly, in one of which belladonna was more successful.

Art. 38.—*Epilepsy occurring at long Intervals during the Night, from Excessive Sexual Intercourse.*

By A. Garden, M.D., Civil Assist.-Surgeon, Saharunpoor.

(*The Indian Annals of Medical Science*, No. 22.)

It appears that the patient, whose case is recorded by Dr. Garden, had suffered for five years from epilepsy, the fits recurring at first every four or five months, but of late much more frequently. He was quite unaware of their occurrence until after their cessation. There was no aura or premonitory symptom. They always came on during sleep after midnight, never in the daytime, and commenced with a loud cry, followed by the ordinary convulsions; the tongue was bitten; there was frothing at the mouth, and complete insensibility. Patient said that he had suffered from spermatorrhœa for years; admitted also excessive sexual intercourse.

As the patient was anæmic the treatment was directed to this, and also to improve the tone of the nervous system. For this purpose oxide of zinc and sulphate of iron were given, three grains of each, with an ounce of the infusion of digitalis three times a day. Good diet and lime-juice. The digitalis infusion, which Dr. Garden has found useful in other cases of epilepsy, was given in accordance with the recommendation of Van der Kolk, who says that, whilst it is not powerful enough to cure, it may promote that end by diminishing the deter-

mination of arterial blood, and so indirectly counteracting the exalted sensibility of the spinal cord.

The treatment in this case was most satisfactory. There had been no recurrence of the fits for some months, and the patient's condition was in every way improved.

Art. 39.—*Affections of the Nervous System dependent on Diseases of the Permanent Teeth.*

By S. J. A. Salter, F.R.S.

(*Guy's Hospital Reports*, third series, vol. xiii., and *Brit. and For. Med.-Chir. Review*, April.)

Mr. Salter divides such diseases into local and remote, but recognises a sort of intermediate group, which it is hard to assign to either. The local affections are readily distinguishable, the remote less so, the most common being neuralgia of the upper part of the face or head, and painful affections of the fifth nerve. But besides pain, irritation arising from diseased teeth may give rise to muscular spasm, muscular paralysis, paralysis of some of the nerves of special sense, perverted nutrition, &c. The diseases which may give rise to these abnormal conditions are caries with or without exposure of the pulp, exostosis, hypertrophy of the crusta petrosa, nodular developments of dentine in the pulp cavity, periostitis, plastic or suppurative, impaction of the permanent teeth in the maxillary bones, crowding of the teeth, &c.

Art. 40.—*On Pseudo-Hypertrophic Muscular Paralysis.*

By Dr. Duchenne, of Boulogne.

(*Archives Générales de Médecine*, Nos. 1, 2, 3, 1868.)

1. Hyperplasia of interstitial connective tissue, with the formation of more or less abundant fibroid tissue, is the fundamental anatomical lesion in the pseudo-hypertrophic paralysis.

2. This lesion occurs in all the paralysed muscles, whether they be increased in size or not, thus justifying the name Dr. Duchenne proposes to give to it, in consequence of its symptomalogical denomination.

3. By it is produced considerable and sometimes monstrous increase in size of the muscles in direct relation to the quantity of connective tissue and interstitial fibroid hyperplasia.

4. The connective tissue and interstitial fibroid hyperplasia is mixed with or united to a small or moderate quantity of fatty vesicles: according to observations made in Germany, it is replaced by a considerable quantity of adipose tissue.

This latter condition appears to Dr. Duchenne to be in pseudo-hypertrophic paralysis, the most advanced stage of the changes in the interstitial muscular tissue.

5. According to Dr. Duchenne's own observations, the transverse

striation is maintained along the whole length, or along a more or less extensive portion of the bulk of muscular fibres, but becomes extremely fine and indistinct. At points where the transverse striæ have disappeared, longitudinal striæ are generally visible ; sometimes however the longitudinal striation is even effaced, when the sarcolemma seems to contain adipose vesicles, which really are formed in the surrounding interstitial tissue, and differ essentially in aspect and extent of conflux from the fatty molecules which characterize fatty degeneration of muscle.

6. The hyperplasia of the interstitial connective tissue does not generally appear before the second stage of the disease ; it seems to be preceded by a state of fluxion of the muscles, which may occasion a slight increase of their size.

In this stage the transverse striation of the muscular fibre is already extremely minute.

The diagnostic signs of pseudo-hypertrophic paralysis, furnished by clinical observation, may be reduced to the following :—

1. Diminution of power from the commencement of the disease, principally in the motor muscles of the lower limbs.

2. Straddling and separation of the lower limbs during standing and walking.

3. Excessive development of size in the second period, either of all the impaired muscles or of some few of them.

4. Onward progress of the disease in the third stage by increase of the paralysis, and if it has been limited to the lower limbs, by its generalization.

5. Diminution or abolition of the electro-muscular contractility in an advanced stage of the disease.

6. Absence of fever, and of impairment of sensibility and of the functions of the bladder and intestines during the whole course of the disease.

Art. 41. — *On Wasting Palsy.*

By William Roberts, M.D.

(*Reynolds's System of Medicine*, vol. ii.)

The article on wasting palsy, by Dr. W. Roberts, exhausts the literature of a somewhat narrow subject. By the name, he means progressive atrophy of the voluntary muscles in groups, independent of any previous paralysis, motor or sensory. Besides the usual hygienic restoration of vital power and the alleviation of the rheumatoid pains in the limbs by the hypodermic injection of morphia, he advises the special employment of Faradic galvanism, which he has found undoubtedly the most effective remedy. It is probably this latter observation which has led Dr. Roberts to modify an opinion he formerly held as to the pathology of the disease, and to agree with Mr. Lockhart Clarke in assigning the primary lesion to tissue-changes in some part at least of the nervous system, if not certainly in the spinal cord. So far as the muscles are concerned, Faradization supplies the lacking stimulus and prevents their atrophy. Had the lesion been in the muscular fibre, Faradization could not have benefited them.

Art. 42.—*On the State of the Optic Nerve and Retina as seen in the Insane.**

By T. Clifford Allbutt, M.A., M.B. Cantab., F.L.S.

(*British Medical Journal*, March 14, 1868.)

The author was first led to examine the eye by the ophthalmoscope in general paralysis. Atrophy of the optic nerve was constantly found. Having thus commenced optic researches among the insane, the author was led to continue them. He hoped that by means of the ophthalmoscope an effort would be made finally to establish the study of insanity upon a positive basis. The author preferred to schedule his cases in accordance with a classification of mental disease, rather than according to the supposed origin or nature of the lesions. The cases were taken chiefly from those in the West Riding Asylum at Wakefield; some also were taken from the North and East Riding Asylum at Clifton, near York. The author expressed his warm thanks to Dr. Crichton Browne, of the Wakefield Asylum, and also to Dr. Christie, of the York Asylum, for their kind interest and aid in his observations. In all, 214 cases were examined. Of those from the two asylums, Dr. Browne and Dr. Christie furnished the brief diagnostic remarks placed upon the schedules.

a. General Paralysis.—Dr. Allbutt examined 53 cases. In 41 of these cases, distinct disease of the optic nerve was found, 7 were doubtful, and 5 were normal. He drew the following conclusions. 1. Atrophy of the optic disc takes place in nearly every case of general paralysis, and is commonly accompanied by atrophy of the olfactory nerves. 2. It is not to be distinctly seen until the end of the first stage, as it slowly travels down from the optic centres. 3. It begins as a pink suffusion of the nerve, without much stasis or exudation, and ends as simple white atrophy. The author likened this process to the so-called "red and white softening" in the brain. 4. The atrophy of the nerve is not in constant proportion to the ataxy of the muscles of the orbit. 5. It is in relation with the state of the pupil, which is contracted during the early stages, and dilated in the fully atrophic stage. 6. As the symptom is not a very early one, it probably has not much diagnostic value: its pathological significance is probably considerable.

b. Mania.—Of this disease, the author brought forward 51 cases. In 25 cases symptomatic changes were found with the ophthalmoscope; 13 cases were noted as doubtful; and 13 were either healthy, or presented non-symptomatic lesions, such as glaucoma, &c. He made the following propositions. 1. The ophthalmoscope reveals symptomatic changes in many cases of mania. 2. These are most common where other symptoms of organic disease exist, and seem not unfrequently to depend upon meningitis. 3. After a paroxysm of mania, there remains a paralysis of the blood-vessels in and about the discs, causing obvious hyperæmia. 4. During the paroxysm there is, perhaps, a spasm of

* Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society, February 25.

these vessels, as suggested by one case. 5. The permanent changes are those of stasis, of consecutive atrophy, of simple atrophy, or of a mixed character.

c. Dementia.—Out of 38 cases, the author found marked disease of the optic nerve or retina in 23; he recorded 6 as doubtful, and 9 were healthy. Many of these cases were known to depend upon organic disease, and, like those of mania, were chosen for their severity. In simple acute dementia, however profound, if independent of organic disease, the author thought that no optic changes take place.

d, e. Melancholia and *Monomania* were tabled together for convenience. Of 17 cases, in 3 only was found disease of the eye. Few of these cases depend upon organic disease. Anæmia of the retina was commonly found, however, in melancholia.

f. Insanity dependent upon Epilepsy.—Forty-three cases were noted. In 15, disease of the optic nerve or retina was found, 9 were doubtful, and 19 showed no change. Simple epilepsy is not commonly followed by disease of the optic nerve. In most of the cases presenting optic changes, organic disease was known to exist from the other symptoms.

g. Idiocy.—The author had previously noticed amaurosis in idiots. He examined, therefore, 12 cases; and he found marked atrophy of the discs in the large proportion of 5; 1 was changing, and 2 were noted as doubtful.

Art. 43.—*Case of severe Brain Disease, with Double Optic Neuritis.*

Under the care of Dr. Hughlings Jackson.

(*Medical Times and Gazette*, April 11.)

In the following case, from the condition of the optic discs, and from the history of severe pain in the head and convulsions, there was to Dr. Jackson's mind no doubt that there was extensive disease within the head—a tumour or coarse disease of some sort.

W. G., aged seventeen, a boy, stunted probably from early rickets. He had a large head, but it had always been large. He had been ill twelve months, but he had never been very strong. During the whole twelve months he had severe pain in the head. He had lost sight eight weeks; of the left eye first. Nine months ago he began to suffer fits. He had about one a month until two months ago, when he had three in a fortnight, and they "took his sight away." He had no warning of them. It is said that they affected the right side of his face and right hand chiefly; he became insensible; his tongue was not bitten, and there was no foam. After the last he slept all day.

When Dr. Jackson saw him he was quite blind. He was weak in both legs; the right leg seemed the weaker, but the difference was slight. The right arm was very slightly affected. His speech was a little odd. He seemed to snatch his words, and ran some up—*e.g.* saying "lee" for "little." Still, the defect was so very trifling that scarcely any importance could be attached to it. His mother said, how-

ever, that his speech was a little different. He still suffered from pain in the head, but had had no fit since those three weeks ago.

His sense of smell was probably not impaired. He seemed too dull a boy to make accurate observations on. He said peppermint smelled of lemon.

Both optic discs white and slightly bluish. The veins were not enlarged, but the arteries were very small; the border of the disc was not much pigmented, and it was a little ill-defined. From the look of the discs Dr. Jackson should say they had been inflamed more than six weeks. They were in what he should call the second stage of optic neuritis, a stage which much resembles what is called the "swollen disc." It is most important not to conclude that the ophthalmoscopical changes we first see are the first changes. The only way to avoid mistakes is to watch many cases of severe optic neuritis in their gradual progress to optic atrophy.

Dr. Jackson gave him iodide of potassium, ten grains .three times a day.

March 2.—His appetite was good, and he slept well at night, and walked about the ward in the day. He soon got free from all symptoms except the blindness, which will be permanent, and has gone out.

Art. 44.—*Neuritis.*

By J. Fayrer, M.D., F.R.S.E., Senior Surgeon to the Medical College Hospital, Calcutta, and Professor of Surgery in the College.

(*Medical Times and Gazette*, January 4.)

The following case is recorded by Dr. Fayrer:—

"On April 27, 1867, I was asked by a medical man to see a native gentleman, aged about thirty, who had been suffering severely for the past three months from a painful affection of the left hip, which had confined him to bed. He informed me that about three months ago he had been salivated for a venereal affection, and almost immediately afterwards the pain in the hip made its appearance. During this period he has had several attacks of irritative fever which have reduced him very much. The pain is so severe and constant that he is unable to sleep. Blisters had been applied over the seat of pain, and many remedies, including iodide of potassium, used without benefit. There was no shortening of the limb, no pain in the knee or hip-joint, or when the sole of the foot was smartly struck with the hand; but there was great pain in the course of the sciatic nerve in the gluteal region, and especially at one point, where I thought, after long and careful examination, that I could detect deep-seated fluctuation, with fulness and induration in the course of the nerve. There was also some tenderness on pressing deeply in the iliac region. It occurred to me that there had been inflammation in, and that the symptoms were due to effusion into, the sheath of the nerve. It is to be observed that he had been previously a healthy man, and not subject to sciatica or rheumatism. I made a puncture with a long narrow knife down to this indurated part, and

gave exit to more than half an ounce of clear serum. The removal of tension caused by the fluid was followed by immediate and almost perfect relief. I did not see him again, but on the 10th of the following month I heard from the medical man who had consulted me as follows :—

"'Dear Sir,—The patient was so much relieved by the puncture that he could get up from his bed and walk about the room. He left Calcutta for his home two days after we saw him. Yesterday I have been informed that he is doing well there.

"'Yours truly, * * * *.'"

"On May 30, I was informed that the patient was quite well and free from lameness.

"*Remarks.*—This is the only case of the kind that I have met with, but I should more carefully look for this effusion within the sheath of the nerve, in future cases of sciatica that may come under my observation. It is possible that this may have been due to the attack of syphilis, or to the mercury which he took to salivation for its cure. But as there was no other evidence of constitutional syphilis, and as iodide of potassium had no effect on the disease, I am inclined to think it was not traceable to this specific origin, but that it was the result of simple inflammation of the neurilemma. The relief afforded by the incision was very great, and, from the accounts I have since received, it has been permanent. The pathology of this affection is interesting, and though the case is a minor one, I have thought it worth recording."

Art. 45.—*On Glosso-labio-laryngeal Paralysis.*

By M. Hérard.

(*Gazette des Hôpitaux*, No. 20, 1868.)

M. Hérard in a paper presented to the Société Médicale des Hôpitaux, gave the particulars of two cases of labio-laryngeal paralysis which approached in many points the type described by M. Duchenne, but yet differed from this sufficiently to constitute varieties of the malady.

1. The subject of the first case was a man, fifty-seven years of age, a cartwright by occupation, well built, and whose previous health had been good. One night, after he had gone to bed in perfect health, he rose up after sleeping for the purpose of passing his urine, and immediately discovered that he had lost the power of speech. There was no other abnormal sign or morbid phenomenon; no pain in the head, numbness, nor formication in the limbs. The loss of speech remained in spite of leeches and a purgative. On the sixth day the man, as his condition was but slightly ameliorated, came into the Lariboisière Hospital.

On admission intelligence was perfectly clear, but the articulation of words was almost impossible, and also of letters, particularly those which necessitate the concurrent action of the orbicular muscle of the lips and the tongue. The patient could not whistle, contract the mouth, or blow with any force. The orbicular muscle seemed to be equally paralysed on both sides; the left commissure was slightly de-

pressed in relation to the other; the tongue seemed to be more extensively affected, it could not be put out from the mouth, its apex could not be elevated, nor could it be moved to the sides of the buccal cavity. The saliva was not retained, and deglutition was much impeded. The patient was obliged to push his food towards the pharynx by the finger; fluids did not return by the nose. The emission of laryngeal sounds was made with great fatigue. The gustatory and tactile sensibilities were preserved; the size of the tongue was normal. There was no impairment of the intellect, and the sphincter muscles and the limbs were free from paralysis.

Marked benefit was derived from a treatment which consisted in cupping and blistering the back of the neck and repeated purgation. At the end of six months the movements of the tongue had returned, but were still imperfect; it was still a difficult matter to carry the apex to the right side; saliva could be retained within the mouth; the lips could be closed, but the articulation of words was not distinct. The state of the patient then remained persistent.

Though the seat of the affection in this case was that of labio-glosso-pharyngeal paralysis, the manner in which the disease commenced and its course were exceptional. Instead of being developed slowly and gradually it was manifested suddenly, and then instead of increasing rather diminished in intensity for several weeks. It is very probable then that the cause of the affection was some sudden lesion of the central nervous system, as, congestion, softening, or more probably hæmorrhage.

2. The subject of the second case was a young woman, aged thirty years, who at the end of May, 1866, after speaking in a loud voice, felt an aching, accompanied with a sensation of strangulation, in the region of the larynx. Deglutition became difficult, and speech embarrassed.

These phenomena were reproduced intermittently by moral impressions, emotions, and quarrels. They were attributed by her medical man to increased development of the thyroid gland, and astringent gargles and an ointment of iodine were ordered.

At the commencement of 1867 the difficulty in deglutition increased, and to this was added nasal speech; drinks now flowed back from the nares; and the articulation of words as well as the movements of the tongue and lips became impossible; the patient could not whistle, blow, or retain her food; at the same time the lower eyelid on the left side gradually became weaker; vision diminished; numbness came on in both hands, particularly in the left, and there was general debility.

When the patient was seen for the first time by M. Hérard her condition was already slightly improved. Under the influence of blisters to the back of the neck and iodide of potassium administered internally this amelioration continued, and was going on very rapidly when Dr. Duchenne applied the electric treatment. She continued to improve until the month of September, when the affections again returned. When seen last by M. Hérard there was ptosis on the left side, impaired vision, paralysis of the velum palati, semi-paralysis of the lips and tongue, weakness of the right arm, and other symptoms of a like nature.

The symptoms in this case were those of glosso-laryngeal paralysis,

with the exception that the tongue was the first organ to be attacked. It may be concluded from the paralysis of the superior eyelid in this patient, that the real origin of the motor oculi nerve distinct from its apparent origin, is without doubt near the commencement of the facial and hypoglossal nerves.

Art. 46.—*On Hypochondriasis.*

By William Gull, M.D., F.R.S.

(*Reynolds's System of Medicine*, vol. ii., and *British Medical Journal*, April 18.)

For hypochondriasis, Dr. Gull recommends moral treatment, especially falling in love, and an avoidance of drugs, especially those directed to the symptoms of the patient; for he views it as a modification of mental derangement acting only secondarily on the body.

Art. 47.—*Observations on the Early Treatment of Insanity.*

By Henry Maudsley, M.D. Lond., Physician to the West London Hospital; Lecturer on Insanity at St. Mary's Hospital Medical School.

(*Medical Times and Gazette*, April 4.)

There can be no question, the author thinks, that an attack of insanity may in some instances be positively arrested at its outset by judicious treatment. He has seen several cases in which a seemingly imminent outbreak of severe melancholia has been warded off, and the patient restored to tranquillity and health of mind, by the judicious use of opium. Indeed, in that state of mental hyperæsthesia which so often precedes an outbreak of insanity, when the mental tone is so changed that every impression is painful, every thought a fear, and every feeling a despair, the remedial virtues of opium, Dr. Maudsley says, can scarcely be exaggerated.

The following case of hysterical mania may serve as an illustration not only of the benefit of early treatment in insanity, but of the advantages which a particular method of treatment sometimes offers in private practice, where there are not the means and appliances which are available in an asylum. On one occasion Dr. Maudsley was called hastily in the middle of the night to see a young woman, aged twenty, who had suddenly become acutely maniacal, and whose frenzy of word and action, upsetting the household, baffled the resources of the medical attendant. After feeling a great craving for a glass of beer, which she had been obliged to gratify, she had gone to bed suffering, as was not unusual with her, from windy eructations; but no sooner had she got to her bed than she broke out in a maniacal frenzy, screaming loudly, raving incoherently, and tearing her night-dress and bed-clothes to rags. It had been found impossible to administer any medicine to her, or in any way to tranquillize

her; a basin of mustard and water, in which an attempt had been made to put her feet, she had kicked over. Dr. Maudsley found her in a state of acute excitement, with dishevelled hair and wildly staring eyes, restlessly starting from place to place, particularly if any one attempted to touch her, talking all the while rapidly and incoherently, and evidently not knowing those who were about her. Under Dr. Maudsley's instructions, a skilful attendant proceeded at once to pack her in the wet sheet after the hydropathic fashion. This was done without much trouble; a cloth dipped in cold water was applied to the forehead, and a drachm of tincture of henbane was given to the patient, who soon afterwards fell asleep. The sheet was removed after an hour and a half, dipped again in water, and reapplied for an hour and a half more. When Dr. Maudsley visited the patient in the morning, all excitement was gone, and though the mind was confused and evidently in a state of unstable equilibrium, yet she was conscious and answered rationally, though quite unaware that she had seen him in the night. From this time recovery went steadily on, and in a few days she was quite restored.

The advantages of packing in the wet sheet in such a case are these: —In the first place, the wet sheet seems to exercise a positive soothing influence, so that a patient will sometimes go to sleep in it when nothing more is done. Secondly, by keeping the patient perforce quiet, without the necessity of a struggle, it not only enables us to give the requisite food and medicine much more easily than could otherwise be done, but it favours the action of the sedative that may be administered. Had the henbane been given to the patient, and nothing more been done, it is more than probable that the dose would have had no appreciable effect upon her excitement. As it was, however, the system was prevented from resisting its action, and the sedative took instant and excellent effect. Thirdly, if packing in the wet sheet carry with it no further advantage, it is a useful expedient for temporarily restraining a maniacal patient where there are not the appliances for treatment which an asylum possesses, and where the practitioner's difficulty of acting immediately and usefully is so great.

"The packing in the wet sheet," the author states, "should not be continued for more than three hours, and during that time the sheet should be removed once, wetted, and reapplied. Thus its application has the character of a remedial means, and is not abused for purposes of mechanical restraint.

"A few words more touching treatment. Had the wet sheet not been used, what means would have suggested themselves as most desirable for adoption? Certainly not opium. It seldom does good in acute mania, especially in young persons, if it ever does real and lasting good in any case of mania. Probably an effectual emetic to begin with, followed by the regular administration of bromide of potassium and tincture of henbane, would have been as successful as the measures that were actually employed in the case. Notwithstanding the opinion of Dr. Handfield Jones, who has recently advocated the regular use of tartar emetic in certain cases of mania, I should not be tempted to employ so uncertain and doubtful a means of stifling maniacal delirium. To my mind there is grave reason to suspect that the administration of antimony in doses large enough to stop the raving of insanity, favours

the lapse of the disease into dementia. Dr. Jones's theory of its action as a tissue sedative, lessening the nutritive activity of the part, so that the altered vital actions go on more slowly, is not inconsistent with that suspicion. There is no reason, so far as I know, to allege that the action of the drug is limited to the particular elements of tissue that have taken on a morbid activity; and if the drug manifests no such elective affinity, but affects all the tissue elements of the body, it is difficult to perceive the foundation of the theory of its assumed virtue. It is surely desirable that the vitality of the parts in the neighbourhood of a morbid centre, or a morbid area of tissue, should not be lowered; a thoroughly sound vitality not only presenting the most effectual barrier against the encroachment of disease, but exerting the best influence in bringing back to their natural allegiance the recalcitrant or revolutionary elements. What advantage is gained by reducing the power of authority and of sound citizenship in order to reduce in equal degree the force of the riotous members of the community? It is with the individual element of tissue as it is with the individual man: let the surroundings be of the best kind, and they will not fail to exert their beneficial influence."

Art. 48.—*Clinical Cases of Insanity.*

By George Fielding Blandford, M.D.

(*St. George's Hospital Reports*, vol. ii., 1867, and *American Journal of the Medical Sciences*, January, 1868.)

In this short but instructive article Dr. B. relates eight cases, three of which refer to patients who spontaneously recovered after attacks of melancholic insanity of seven, six, and five years' duration respectively —in illustration of the principle, that where "great depression is the prominent feature, it appears that the delusions attending it will vanish if the feeling itself passes away; and we learn from such cases once more the lesson that the greater the emotional disturbance in any insane person, the more favourable is the prognosis.

The remaining five cases are examples of *Mania Transitoria*, in three entirely unconnected with epilepsy; the diagnosis of such cases from ordinary acute mania is shown to be very difficult at the outset. The general points are thus stated:—

"It is likely to be transient if its invasion is very sudden, and if there is a definite and sufficient mental cause, as a shock or fright. It is likely to be prolonged, if its approach has been very insidious and gradual, and if there is no assignable cause. If the bodily condition is much affected, if the tongue is brown and dry, the urine scanty and high coloured, and if the bowels can hardly be moved by the strongest purgatives, it is not likely to pass off in a few days. If, on the other hand, the bowels are easily and freely opened, if the urine is copious and pale, and the tongue pale and moist, we may hope that it will soon be over, especially if there is extreme violence, bearing no proportion to this slight bodily disturbance. And our decision will be aided by the advent of sleep if this occurs in a day or two. If the disorder is to run the

ordinary course of acute mania, sound and long sleep is not to be expected at so early a period."

Caution in action in such cases is strenuously enforced, as "two or three days will solve the question for us;" and also against the *nimia diligentia medici*. Quiet, judicious nursing, gentleness on the part of nurses and friends, are of the greatest importance; the good effects of purgatives is mentioned, as is also shown by Dr. Forbes Winslow. The remark that counter-irritation should be applied further off than the shaven scalp, or even the nape of the neck, should be especially borne in mind in the treatment of these cases. Preference is wisely given to digitalis and henbane, to packing in a wet sheet, warm bath, and cold to the head, and such measures, as a means of removing the excitement and procuring sleep; while removal to an asylum should be delayed as long as possible, for nothing is so likely to convert one of these short attacks into a prolonged and obstinate mania as such a removal.

Art. 49.—*On Insanity.*

By Henry Maudsley, M.D.

(*Reynolds's System of Medicine*, vol. ii., and *British Medical Journal*, April 18.)

In insanity the author entirely abstains from all those counter-irritants, evacuants, and depressants in which our forefathers indulged. He is convinced that blistering, like bleeding, does simply harm. He supports the increased drain on the tissue-changes by nutritious food; he renews the activity of the sanguineous circulation by variations of temperature, applying cold douches, warm baths, packing in wet sheets, according to circumstances. He calms the hyperæsthesia of early insanity by opium and its salts; warning us, however, that we must not attempt thus to "knock down" a paroxysm of acute mania by increasing the usual dose, or a fatal collapse may ensue; we must bide our time. Henbane also, and digitalis in full doses, he finds, will take the place of opium. He then gives iron and quinine. After the complaint has become chronic and intermittent, or even appears cured, the patients must be carefully watched, especially in the early morning, when desperate impulses are apt to surprise and overpower them. And if there be real danger to others, the patient may be locked up; but Dr. Maudsley concludes with a sentiment very comforting to our *diffusi*, "It is not because a person insists upon ruining *himself* that it is justifiable to deprive him of liberty."

It is easy to judge from this that the author looks upon madness as a lowering, not an exaltation, of the psychical life; and that he will represent the lesions found in the nervous tissues of the insane as chronic degenerations, not as the results of acute inflammation.

Art. 50.—*Observations on the Temperature of the Body in the Insane.*

By T. S. Clouston, M.D. Edin., Medical Superintendent of the Cumberland and Westmoreland Asylum, Carlisle.

(*Journal of Mental Sciences*, April, 1868.)

The general results of Dr. Clouston's observations may be thus summed up:—

1. The temperature of the body is higher in the insane than in the sane.

2. The temperature is highest in phthisical mania, gradually falling in the following order:—General paralysis, acute mania, epilepsy, melancholia, mania, mild dementia, and complete dementia.

3. Dementia is the only form of insanity whose average temperature is below health.

4. The great characteristic of all the forms of insanity, is that the difference between the morning and evening temperature is much less than in health, and this is owing to the rising of the evening temperature, and not to the lowering of the morning temperature as compared with the healthy standard.

5. This rising of the evening temperature as compared with the morning is in the exact ratio of the death rate among the various forms of insanity, finding its acme in general paralysis.

6. In general paralysis, the average evening temperature is higher in every case than the morning temperature (the observations being taken over a sufficient period).

7. In phthisical patients the temperature is high, and is especially high in the acute forms of the disease, but the latent forms cannot be certainly diagnosed by thermometric observation.

8. The evening temperature of *every* form of insanity (even complete dementia) is higher than the evening temperature of health.

9. The greatest differences in different individuals labouring under the same form of insanity are found in general paralysis, epilepsy, and acute mania. In the first named a difference of 8°·7 has been found.

10. Excitement in a patient is almost always attended by an increased temperature as compared with depression or quiescence. This difference averages 2°·2 in periodic mania with long periods, and 1°·1 in periodic mania coming at shorter intervals. In general paralysis there may be a difference of 5°·8 in the same individual in different stages of the disease.

11. An epileptic fit depresses the temperature at first, and then tends to raise it a little, but it makes a difference whether the patient sleeps or wakes after the fit.

12. The epileptiform fits of general paralysis are always followed by a greatly increased temperature, lasting for several days, and they may in this way be distinguished from ordinary epileptic fits.

13. The average temperature falls as the patients get older, but the fall takes place chiefly in the morning temperature.

14. The *average* frequeney of the pulse in the various forms of insanity corresponds with the *mean* temperature, but the rise in the evening temperature has no eorresponding rise in the evening pulse.

Art. 51.—*The Connexion between Pellagra and Insanity.*

By Dr. Brierre de Boismont.

(*Journal of Mental Science*, April.)

We ean only give the general eonclusions to which Dr. Brierre de Boismont comes after his exhaustive diseussion of this subjeet. That insanity is a frequent complication of pellagra is undoubted; the fifth of the patients in the Italian asylums of the Senovra and the third of those at San Servolo being afflicted with pellagra. It appears from a paper of Professor Gianelli that the annual number of those requiring to be admitted to the asylums of Lombardy is not below seven hundred. The insanity which is associated with pellagra is no peculiar species. Its ordinary form is depressed monomania (lypemania of Esquirol); it is not, however, so frequent as to prevent mania and dementia from being often associated with pellagra. The stupidity observed in many cases appears to present well marked differences from the stupid melaneholia deseribed by Baillarger. Ordinarily the insanity does not appear until after the pellagra; this, however, is not constant. The suicidal tendeney mentioned by authors is undoubtedly associated with pellagrous insanity, but not so frequently as was formerly believed. Besides, the tendeney is most often associated with the form of insanity whieh we have seen to be most frequent. The eomparative examination of the symptoms of pellagrous paralysis and general paralysis of the insane does not favour the idea of the identity of these two diseases.

Art. 52.—*The Influence of Meteorological Conditions on Insanity.*

By Dr. Lombroso.

(*Archivio Italiano per le Malattie Nervoso*, 1866 and 1867, and *Journal of Mental Science*, April, 1868.)

Dr. Lombroso gives a series of tables extending over the seven months from November, 1866, to May, 1867, which are ingeniously constructed to show at a glance the meteorologieal state (barometer and thermometer, state of moon, force and direetion of wind, storms), and the number of paroxysms of ordinary or epileptie mania occurring in his asylum at Pavia on eaeh day during that time.

The general conclusions he draws from these and other data are :—

1. A moderate heat (not exeeeding 77° F.) does not appear to have any great influence in producing paroxysms in the insanity but if the thermometer reaches 85° or 90°, the number of exaeerbations is much greater than usual.

2. Cold (25°) has a very slight effect in increasing the number of maniacal attacks; it diminishes the number of epileptic fits.

3. When the barometer rises higher than 29·8 inches, the number of exacerbations is increased; violent barometrical oscillations in either direction are preceded and followed some days by a greater or less number of paroxysms, according to the amount of oscillation.

4. The degree of humidity of the air appears to have no effect.

5. There were fewest maniacal fits on the days when the wind was E. or S.

6. It is not clear whether positive electricity, or the presence of ozone, has any effect upon the insane. When the air is in a state of negative electricity, the number of attacks seems to be slightly increased.

7. There seem to be more attacks at the new and full moon, and at the summer solstice. The slight shock of earthquake felt at Pavia on March 16th, 1864, was preceded by two days of unusual disturbance among the patients, and followed by unusual quiet.

8. Barometrical changes appear to be felt more keenly when the mind is feeble than when healthy; the lower animals are more sensible to them than man; and, among asylum patients, those in a state of dementia, or old epileptics, notice them more than the others.

9. Epileptics have more attacks on hot days, except in the month of August, which is favourable to them; they are at their best in winter. They have more attacks when the barometer is low, and two or three days before it rises; the south and east winds have a bad effect upon them. As to lunar influences, they have fewest attacks during the second quarter; the new moon seems to be favourable to them. In many of these points, epileptics are very differently influenced from other insane patients.

10. The considerable meteorological variations of autumn and spring have a good effect on chronic cases.

11. Most deaths occur in the coldest and hottest months, especially in cold and damp weather.

12. To apply practically these conclusions, it may be remarked that persons predisposed to insanity should be protected especially from great heat and from barometrical variations. Epileptic and demented patients should be kept in places not liable to great heat or barometrical changes. Might not the application of ice to the head benefit the former? Those suffering from chronic mania should not be protected from meteorological variations.

13. Suicides, murders, and all crimes of violence are most frequent in the hot months of the year; so are revolutions.

Art. 53.—*The Utility of Family Life in the Treatment of the Insane.*

By Dr. Brierre de Boismont.

(*Journal of Mental Science*, January, 1868.)

This subject is treated at some length by Dr. Brierre de Boismont, and is illustrated by several reports of cases treated in the writer's own family. He sums up his conclusions categorically as follows:—

1. Family life mitigates what is disagreeable in seclusion where such treatment is found necessary.

2. This powerful auxiliary to general treatment is favourable not merely to the cure of mental diseases, but it sometimes even retards for years the progress of the chronic condition.

3. In enabling to restrict the number of sections, family life actually removes the cloistral character, and makes a nearer resemblance to an ordinary house.

4. The incessant action of family life unobtrusively undermines delusive ideas, and puts a stop to those sudden manifestations which attest their influence over the patients. Direct argument or sentimental emotion, on the other hand, almost always fails during the first period of mental derangement.

5. The time when family life ought to be commenced, varies according to the symptoms ; sometimes it is suitable from the beginning, at other times it is necessary to wait until the acute stage has lost some of its orce.

6. This daily and continuous observation which reveals the periods when it may be proper to apply argument, is not less indispensable for the study of the legal responsibility of the insane.

7. The superintendence of this treatment does not require superior qualities; extreme patience, and kindness combined with firmness, suffice to attain the end.

8. Woman, by her devotion and her religious tendencies, is eminently suited for this mission. She ought to be assisted in the work by her family, or, when that is wanting, by a select staff.

9. The patient's family cannot ordinarily manage the insane, for it is often the point of outbreak in their maladies, and it cannot bring new influences to bear upon them.

10. The simplicity of the means ought to be so much the more acceptable, as it is only an application of psychological medicine.

(B.) CONCERNING THE RESPIRATORY SYSTEM.

ART. 54.—*Laryngoscopy.*

(*Canada Medical Journal*, December, 1867.)

The following useful suggestion is made by a correspondent of the *Chicago Medical Examiner* :—

"I have frequently been able to overcome the irritability of the throat, sometimes so troublesome in laryngoscopic examinations, by throwing upon the velum and posterior portions of the pharynx a spray of sulphuric ether, by means of Richardson's apparatus. The patient should take a full inspiration before commencing the operation, and the spray should be rapidly carried from point to point, so as not to produce congelation. This method is quicker, more convenient, and more efficacious than ice."

Art. 55.—*The Treatment of Catarrh.*

By John Addington Symonds, M.D., F.R.S.E., Vice-President of the British Medical Association.

(*British Medical Journal*, May 9.)

For preventing this slight disorder from running into bronchitis, Dr. Symonds has found no plan so generally effectual as the prescription of a pill of calomel and opium and ipecacuanha at night, followed by a purgative in the morning, consisting of Rochelle salts and senna. The patient must remain in bed for at least half a day. The efficacy of this method is in a direct ratio with the promptitude of its administration. A delay of twelve hours will make it futile. The complaint must be seized by the forelock. But is it worth while to resort to such discipline for a common cold? For delicate persons, prone to bronchitis and graver ills, it is well worth while to crush the incipient mischief. When opium or morphia cannot be taken, these pills are useful.

℞ Ext. hyos., pulv. conii, sing. gr. iv; calomelanos, pulv. ipecac., sing. gr. j. M. Fiant pilulæ ii vespere sumendæ.

Art. 56.—*The Treatment of Asthenic Bronchitis.*

By John Addington Symonds, M.D., F.R.S.E.

(*British Medical Journal*, May 9.)

At all ages, but especially in the very young and the very old, the bronchial irritation may be accompanied with profuse secretion, deluging the tubes faster than coughing can pump them out. The complaint is analogous to muco-enteritis with profuse diarrhœa. The remedies are ammonia, senega, champagne, brandy, and strong beef-tea, and the like; with large sinapisms, turpentine liniments, and blisters. If the patient can bear some catharsis, so much the better for him. In some cases, Dr. Symonds has given frequent doses of oil of turpentine (ten or fifteen minims) in an emulsion with marked advantage. The nicety in the treatment consists in sustaining the patient's strength, and at the same time maintaining the cough and expectoration. Sometimes cough and expectoration fail, and there is no recalling them. All our hopes then turn on emesis, and sulphate of copper and sulphate of zinc are of signal value. The former is the surer. Mustard and water will sometimes succeed. But Dr. Symonds has had cases in which life was saved, like a brand snatched from the burning, by rough mechanical treatment. Having forced down an emetic, to which the stomach, or rather the pneumogastric nerves, were too paralysed to respond, he has, as a last resource, dragged the tongue forward, and thrust a feathered quill behind the epiglottis into the chink of the larynx, and so excited a violent convulsive action of cough and vomiting, terminating in an expulsion from the air-tubes of large quantities of frothy mucus mixed with plugs of a more solid secretion.

Art. 57.—*Practical Observations on Diphtheria.*

By W. Newman, M.D. Lond.

(*St. Bartholomew's Hospital Reports*, vol. ii., and *British and Foreign Medico-Chirurgical Review*, January, 1868.)

The author of this paper believes, in common with most modern physicians, that diphtheria is not so much a local as a constitutional disease, depending on some morbid condition of the blood. He combats the views of those who once believed that diphtheria was an exanthem like scarlet fever, and he points out the diagnostic marks by which the two diseases may be distinguished. He regards diphtheria as a disease in which some morbid material is received into the blood, causing general constitutional disturbance, and being specially marked by what Dr. Newman somewhat erroneously designates the exudation of *lymph* about the mucous membrane lining the throat, pharynx, and upper part of the air passages. This local state, however, like the eruption in scarlatina, is not a constant or necessary attendant of the affection, which may consist only of the constitutional disturbance. Dr. Newman divides diphtheritic affections into the simple and the malignant, the former comprising the laryngeal disease, and the latter the nasal complication, but it is rather questionable whether the malignant form described by Dr. Newman is not to be regarded as scarlatina. The rules of treatment laid down are in accordance with those generally adopted by modern physicians, and consist in the local application of the strong hydrochloric acid with an equal bulk of honey or water, in the internal administration of wine, and in the use of a stimulating and supporting diet.

Art. 58.—*On Croup and Diphtheria.*

By J. W. Haward, Esq.

(*St. George's Hospital Reports*, vol. ii.)

Is it correct to speak of croup and diphtheria as two diseases, or are the conditions to which the name of "croup" and "diphtheria" are applied merely variations of the same disease? Mr. Haward, in answer to this, states that it is his belief that there are two distinct combinations of symptoms, with their associated pathological changes, to one of which may be given the name of croup, to the other diphtheria; that these combinations are constant, and that the elements or terms of the one are never mixed with the elements or terms of the other (though there may be certain added quantities which are common to both); that the constant combinations are of the important and essential elements in each quantity; and that these always occurring in the same and distinct association, there is sufficient ground for regarding each of the two diseases made up of these elements as distinct and non-identical.

With regard to the treatment of croup, Mr. Haward has no doubt of the value, if the case is seen early enough, of local bleeding by leeches to the throat, and antimony given in emetic doses. A belt of flannel,

on which is spread mercurial ointment, may also be applied. Added to which he would strongly recommend keeping the child in a warm and moist atmosphere, which is done at the Children's Hospital by enclosing the bed in curtains, and directing into the tent thus formed a fine jet of steam. If, however, the child is in the second stage, when the lividity and drowsiness show it to be suffering from the non-aëration of the blood, the time for antiphlogistic treatment is past, and stimulant emetics, such as ipecacuan and ammonia, must be given, with senega and ammonia in the intervals. But these means must not be trusted to for long, and if, in spite of them, the respiration is steadily becoming more difficult, tracheotomy should be resorted to.

In alluding to the treatment of diphtheria, Mr. Haward says that as it is a depressing disease, all antiphlogistic measures must be carefully avoided. Of the various medicines that have been recommended, Mr. Haward cannot speak with much favour. The much-praised tincture of iron has not seemed to him to have any special effect, nor, indeed, has anything else; but it seems reasonable to give the chloride of potash and iodide of potassium, to which may be added bark; the chief reliance, however, should be placed upon stimulants, which should be given freely from the first. Of local caustics the hydrochloric acid and honey have seemed to Mr. Haward the most effective and least painful. If resorted to, it should be done once thoroughly and not repeated; and it is accomplished best by means of a small piece of sponge held in a pair of long-limbed vulsellum forceps, such as are used in excision of the tonsils. Mr. Haward thinks that a solution of permanganate of potash is the best gargle; two drachms of Condy's fluid to half a pint of water; and in children, where the throat must be syringed (on account of their inability to gargle), it has the advantage that it is swallowed with impunity. The coryza may be much relieved by washing out the nostrils with a similar solution, after Dr. Thudichum's plan. No doubt during the convalescence iron is useful, as also for the sequential paralysis, especially combined with strychnine. When, however, the larynx shows any sign of being affected, the patient should be at once put into the steaming tent and the symptoms very carefully watched; and if the breathing is getting steadily worse, and is not relieved by one or two stimulant emetics, tracheotomy should be performed. Mr. Haward is convinced of the correctness of Trousseau's advice, that the operation should be executed slowly. After the operation the patient should be kept in the tent-bed in a moist atmosphere of about 70° Fahr. This much lessens the danger of bronchitis and pneumonia, and greatly assists expectoration. The food at first should be fluid, unless, from loss of sensibility of the epiglottis, the fluids run into the windpipe, in which case pultaceous food must be given. It is advisable to remove the canula on the third or fourth day, or even before, and close the wound for a short time with sticking-plaster, and to do this every day several times, for an increasing length of time, until the child can bear the wound to be permanently closed, the surgeon being always of course at first prepared to insert the tube again at any moment, as is often necessary, especially at night. Good nursing is absolutely essential for the recovery of patients after tracheotomy.

Art. 59.—*The Sheffield File-cutters' Disease.*

By John Charles Hall, M.D.

(*St. George's Hospital Reports*, vol. ii. 1867.)

In this paper Dr. Hall gives a description of the method in which files are made, from which it is shown that this disease is a general lead poisoning, caused by the introduction of finely divided metallic lead, arising from the bed of lead on which the file rests while being cut. The blue line around the gums is shown to exist for a very long time, eighteen or twenty years after its formation, although the patient may be entirely removed from the possibility of any further absorption of the metal. In the treatment of lead colic the magnesian draught, with additional sulphuric acid and chloric ether, is recommended to be continued for some length of time. Iodide of potassium is discarded as of no value. For the "dropped-wrist," a splint, rest, counter-irritation, and galvanism are used, with the remark that the purgative as above should be continued for some time before galvanism is applied, and also before the use of strychnia is commenced.

The tincture of nux vomica, sulphates of quinine and iron, and the tincture of the sesquichloride of iron are mentioned as the most reliable tonics. General hygienic rules must of course be attended to.

The prevention of this lead-poisoning is shown to be an easy affair, by the use of sulphuric acid lemonade, by cleanliness, often washing the mouth, bathing, washing before meals, changing the clothes after work, combing and washing the hair, an ori-nasal respiration, and such means as prevent the entrance of the lead into the system.

Art. 60.—*On Tubercular Pneumothorax.**

By R. Douglas Powell, M.D.

(*British Medical Journal*, May 16.)

The following is a summary of Dr. Powell's paper. 1. There is a constant tendency in phthisis to the occurrence of pneumothorax, though this tendency is commonly counteracted by the adhesions which take place between the pleuræ. 2. The softening down of tubercular masses and the ulceration round them are the commonly recognised causes of the production of pneumothorax; but this phenomenon is sometimes produced by a different morbid process, which results in the formation of a sinus analogous to those leading from diseased bone or old abscesses in limbs. 3. The character of the dyspnœa in pneumothorax resembles more that of cardiac than pulmonary disease. 4. The most important physical signs are excessive resonance, with suppressed or very feeble respiration on the affected side, and displacement of the heart to the opposite side. 5. The intensity of the symptoms in pneumothorax, and likewise the prognosis, are dependent on—*a*. The con-

* Read at a meeting of the Royal Medical and Chirurgical Society, April 28.

dition of the lung at the time of rupture. *b.* The nature of the opening. *c.* The state of the other lung. *d.* The previous condition of the patient. 6. Though in all ordinary degrees of lung collapse the pulmonary circulation is not appreciably affected, yet in the complete collapse of the lung in pneumothorax, the circulation through it is greatly impeded. 7. The air-pressure within the pleural cavity in cases of pneumothorax has not hitherto been ascertained. In five experiments made post mortem by the author, it varied from two inches to six inches of water. 8. The result of the impediment to the circulation through the affected lung is a disturbance of the relation normally existing between the pulmonary and systemic circulations. This disturbance is in a measure compensated for by the capacity of the venous, and more particularly of the portal, system, admitting of considerable accumulation of blood, and consequent retardation of its return to the right auricle. The indications for treatment are dependent upon the different modes in which death may occur—viz., by asphyxia, from pressure on lung causing obstruction to the circulation; by shock; by exhaustion. The principal methods of treatment to be considered are: paracentesis; bloodletting, by opening a vein or cupping; purgation, by hydragogue cathartics; opium administered by mouth, or by subcutaneous injection of morphia; stimulants.

Art. 61.—*On Diseases of the Lungs from Inhalation of Dust.*

By Professor Zenker.

(*Aerztliches Literaturblatt*, No. 12, 1868.)

Although after recent researches there can be no doubt concerning the penetration of dusty particles into the lungs, still every contribution on this subject is always of importance. Zenker treats of this matter at length, and reports the two following interesting cases of inhalation of oxide of iron powder, in which an important change was brought about in the lungs. Zenker coins for this affection the name of pneumonoconiosis siderotica, or briefly, siderotic pulmonism.

The subject of the first case was a female worker in a manufactory, whose age was thirty-one years, and who died in the Nuremburg Hospital after a stay of ten days. This woman for the last seven years of her life had worked in one of the manufactories where small books of blotting paper for the reception of fine gold leaf are prepared, and was employed principally in colouring this paper. The manipulation of this colouring consisted simply in placing upon a sheet of the blotting paper some fine powdered pigment, and rubbing this in by means of a woollen cloth, until the whole of the paper was permeated; the pigment powder itself is finely powdered oxide of iron, which, under the name of "Englischroth," is applied to many technical uses. As the colouring-room in these manufactories is generally small and wanting in special arrangements for ventilation, it is commonly pervaded by a thick red dust, with which the walls, tables, and the air itself are coloured red, and also the saliva of the workwomen. The patient con-

tinued this occupation after symptoms of a chronic lung disease had presented themselves in the summer of 1862; she remained away from the colour-room for the first time during Christmas 1863. On her admission into the hospital all the symptoms of pulmonary phthisis were found; in the scanty muco-purulent sputum could be perceived here and there small red streaks, which were considered to be blood particles. In the last days of life the disease was complicated by anasarca and slight ascites. On post-mortem examination there were found traces of an old peritonitis and perimetritis (several deliveries had previously taken place) and also a very remarkable condition of the lungs. After the separation of fibrous pseudo-membranes and coverings, which extended over a great part of the lungs, the superficial surface of these organs was found regularly coloured an intense brick-red, with the exception of some circumscribed black marks which were observable here and there. On section the parenchyma where it contained air was also stained at every part, evenly and intensely, of a brick-red colour. The cut surfaces, on closer examination, presented a red mesh-work with fine cells, in which the lobular septa were marked out as ridges of a stronger red colour, so that with the naked eye the close connexion of the red colouring matter with the tissue could be recognised. There was, however, a thick, brick-red fluid poured out over the cut surfaces, which must have been contained free in the air passages. Scattered in every lobe of the lungs lay numerous bright yellow knots of induration, some of them distinctly peribronchitic, others merely fibrous indurations, which varied from the size of a pin's head to that of a pea, and some of which were marked with brick-red stains. In addition, the pulmonary lobes, with the exception of the right middle one, presented irregularly formed caverns, which varied in size, those in the right lower lobe being the largest; the cavities were smooth-walled in some parts, undergoing ulceration in others, in the latter condition the sides were covered by crumbling and partially brick-red coloured masses. The coat of the larger arteries and veins, and also that of the large brochiæ, was quite free from staining; the brick-red spots first appeared in the finer bronchial tubes, and by this was affected not the most superficial, but the deeper seated tissue layers of the bronchial coats. The cortical portion of the bronchial glands was intensely and regularly stained of a brick-red colour. The central portion, on the other hand, was for the most part coloured black, and contained but a slight sprinkling of red spots. On chemical examination it was learnt that the red colour was due to the presence of an enormous quantity of oxide of iron, the nature of which therefore corresponded exactly to that of the pigment powder described above. On microscopical examination it was further disclosed that the red fluid contained in the air passages, comprised as its chief constituents enormous quantities of large, roundish granular cells, the granules of which were proved to be particles of oxide of iron, both by their chemical properties and by their showing a brick-red colour with reflected, and a dark brown colour with transmitted light; besides these, there were also present some flattened epithelial cells, together with a few shining cells which were free from granules of iron. The staining of the tissue itself was caused by the deposit in it of more or less thickly crowded

fine particles which exactly resembled those in the granular cells. These particles were most thickly accumulated in the septa of the lobuli and infundibula, whilst the septa of the alveoli were less thickly strewn, and in some places were quite free from granules. On the other hand, the adventitious connective tissue about the branches of the bronchial tubes presented quite a thick ferruginous infiltration, whilst, as has been already pointed out, the coats at least of the larger bronchial tubes themselves were quite free.

The subject of the second analogous case was a workman, thirty-seven years of age, who since his fourteenth year of life had been constantly employed as a glass polisher in a Nuremburg mirror factory; the polishing powder used here was the same English red, the technical application of which was alluded to in the first case. In this patient there was developed, subsequently to a severe attack of inflammation of the lungs and diaphragm in Easter 1864, a constantly increasing cough, and weakness in the limbs, so he perceived the necessity of giving up his work at the factory. He then gradually sank with the symptoms of well-marked pulmonary phthisis. The condition of the lungs corresponded altogether to that of the preceding, although it was not quite so far advanced. Here also the air-containing tissue of the lung presented an extremely fine ochre-brown network, extending in some parts over a large extent, and in others forming smaller patches; this was produced through the deposition of oxide of iron in the alveolar, and particularly in the infundibular and lobular septa, and also in the adventitious tissue of the bronchi; the bronchial glands were in this case also well marked by a number of confluent yellow spots, and even in the lymph glands, situated as high as the middle of the trachea, were found very many fine spots of a red colour. Finally, there were scattered through these lungs numerous grey and cheesy knots, and also small ulcerated cavities, which in some parts were of an undoubtedly tuberculous nature; in this case were found, moreover, miliary tuberculosis of the pleura and tuberculous ulceration of the larynx and intestines. In this, as in the preceding case, there clearly can be no doubt that the infiltration of the lung tissue and the bronchial glands with oxide of iron was produced by a penetration of this substance through the air passages. As in cases of true anthracosis, so in these also it happens that the particles of dust first penetrate as far as the epithelial cells of the alveoli, are respectively taken up there, and then pass into the lung tissue itself. In the latter class, however, the position of the pulverulent deposits does not indicate the complete course of the foreign bodies, but rather spots only where these accumulate in consequence of retarded or probably completely arrested movements. It is thus explained why the alveolar septa are in many instances found devoid of grains of iron, whilst in the lobular and infundibular septa, in the coats of the bronchi, and even in the pleura the most copious deposits are met with.

In discussing the pathological importance of the described conditions, Zenker points out in the first place how the accumulation of iron dust in the alveolar spaces, and also the enormous infiltration of the tissue itself with iron must necessarily, by narrowing the air passages and by destroying the elasticity of the tissues, interrupt the

interchange of gases; in the second place there are the bronchial catarrhs excited and kept up by the constant inhalation of dust particles. But Zenker proceeds still further. In both the detailed cases was found, in the first quite simple, and the second complicated with genuine tuberculosis, a very advanced disease of the lungs, which may be best comprehended as a complication of lobular interstitial pneumonia and chronic ulcerative bronchitis. Though, on the one hand, it cannot be denied that a similar condition is observed not unfrequently under other conditions, and on the other, anthracosis has been observed without involving the deeper tissues of the lungs, still the circumstance that in the majority of cases in which individuals have been undergoing for a long time the inhalation of masses of dust (coal miners, stone cutters), an analogous post-mortem condition of the lungs has been found, seems to be sufficiently strong to enable one to draw the conclusion that in the preceding cases the inhalation of iron dust must be considered as the starting-point of the structural lesion.

Art. 62.—*Inflammation, with special Reference to the Forms of Pneumonia.*

By William Addison, M.D., F.R.S.

(*The Co-existence of two Species of Inflammation.*)

The following is a brief recapitulation of the important subject discussed in this pamphlet:

Under ordinary circumstances, blood is liable to various temporary disturbances, and we see external granulations gradually invaded by spots of fading granulations and ulcerations. Care in diet and medical treatment will put the blood into a better condition—whereupon healthy granulations spring up which supplant the spots of ulceration—and the wound or sore then heals.

There are, within the area of what seems the same pulmonary inflammation, many air-spaces of the lung, and many villi of the small bronchial tubes. In common inflammation in these parts, there is no disposition in the action to go beyond the necessity of reparation—the surrounding parts are healthy—the blood in good condition. But where the blood has departed from the standard of health, so that one cell, one villus, or one granulation, has succumbed to its altered state, then the next cell, the next villus, or next granulation, must be on the verge of giving way; and as they fall one after another to impurity of blood, so specific inflammation spreads.

In pneumonia, an increasing gravity of symptoms, with on-coming fever, denotes an increasing amount of cells, villi or granulations, sacrificed to impurity of blood. A decrease in the gravity of symptoms indicates a relatively-increasing amount of cells prepared to undergo the metamorphoses required for the restoration of the suffering organ, and this is common inflammation superseding the specific as preliminary of cure.

Generally, upon the whole subject: Bruises, fractures, lacerations,

surgical operations, local irritations on the skin, mucous membranes, &c., are followed by *common inflammation*—the process of repair—a palpable exemplification of the *vis medicatrix naturæ*.

Excess or deficiency of food or drink, unwholesome things taken into the stomach, poisonous matter, and other accidents, produce impurity or disorder of blood, which gives rise to various kinds of *specific inflammation;* and in many well-known examples, specific inflammation undoubtedly gives outlet to morbid matter in the blood.

Both species of inflammation are characterized by *new embryoniform cell-growths in the blood-vessel tissue.* The distinction seems to be, that the *cells* of common inflammation are amenable to the ordinary law of growth —susceptible of metamorphosis into the tissue from which they arise—whereas the *cells* of specific inflammation, contaminated by impurity of blood, are deficient in, or have lost these properties—they are *all of them* deciduous, and therefore tend to protract or perpetuate a local sore, or common inflammation. If blood be in an unhealthy state, *specific inflammation* may coexist with *common inflammation.*

Art. 63.—*On the Value of Palpation in the Diagnosis of Tubercular Disease of the Lungs.*

By George N. Edwards, M.D.

(*St. Bartholomew's Hospital Reports*, vol. ii., and *British and Foreign Medico-Chirurgical Review*, January, 1868.)

Dr. Edwards, feeling confident that the value of palpation in the diagnosis of tubercular disease of the lungs is not duly estimated, determined to institute a series of observations in which his own diagnosis, arrived at from palpation, was corroborated by other observers, from auscultation and percussion. Dr. Edwards states that it is almost impossible to express in words the difference between the sensation conveyed to the fingers by the portion of the chest over tubercular and that over healthy lung, but perhaps it may be described rather as a want of elasticity than anything else. He then gives a table of fifty cases in which he adopted this method of diagnosis, and in all of them the position of the tubercles was confirmed by the auscultatory phenomena.

Art. 64.—*On the Prophylaxis of Pulmonary Phthisis.*

By M. Villemin.

(*Gazette Hebdomadaire*, No. 10, 1868.)

In a paper read before the Société Médicale des Hôpitaux, Villemin asks, after having proved the insufficiency of our methods of treating phthisis, whether the disease cannot at least be prevented. As yet the prophylaxis of phthisis has not been more satisfactory than its treatment; since it is shown by statistics that, notwithstanding the progress of hygiene and therapeutics, the mortality from the disease increases every year.

The attacks of disease may be opposed by two kinds of methods: the one increases the resistance of the organism and prevents a morbid susceptibility; the second tends to destroy, weaken, or neutralize the pathological cause. In phthisis there is an essential originating effort which must be recognised and attacked, and against which all the resources of prophylaxis must be directed.

M. Villemin recognises many predisposing causes of tuberculosis, but above all one special determining cause. His opinion is based upon the facts that domestic animals exposed to the same influences as ourselves never become tuberculous, and that, up to the present time, tuberculosis has been set up in animal species only by the inoculation of the matter of tubercle. If these reasons seem insufficient, or even doubtful to some, the direct or indirect transmission of the disease from an affected to a healthy individual seems to be another reason which will meet with more partisans. It is unnecessary with regard to phthisis to depend upon the examples of pure contagion resulting from cohabitation, from the direct contact between a phthisical patient and an individual in good health, as between husband and wife. Tuberculosis can probably be contracted through indirect ways; as by clothes, bed linen, water closets, the confined air of habitations occupied by tuberculous persons, or by any other unrecognised mode. In many cases a possible transmissibility of the disease must be considered as well as possible inheritance on account of the many relations which actively exist between the members of one family. The following case is reported in support of this view:—

About five years ago M. Villemin treated a young girl who died from tubercular disease of the lungs and serous membranes. An older sister died from the same disease one or two years before. After the death of the second sister, a third became tuberculous and was affected with a large cavity in one lung. The parents, however, though both old, were in perfect health, and had no recollection of any previous cases of phthisis in their family. Must inheritance be here invoked? M. Villemin thinks not. The first sister he states evidently died from acquired phthisis. It will be said that the other two sisters were attacked with an hereditary disease, because the eldest one died phthisical; and still there had never been any tuberculosis in the older or collective branches of the family.

On investigating with more care the descent of these three manifestations of tuberculosis, it was found that the eldest sister returned home one day suffering from one of those *neglected colds*—"rhumes négligés"—which in the eyes of every one play so great a part. The girl being the eldest had her own chamber. On her death the next sister necessarily inherited her chamber, water-closet, bed, and, unfortunately, the fate also of her predecessor. This fatal heritage then came to the second sister, who soon presented, in her turn, all the symptoms of phthisis.

M. Villemin asks if it be always inheritance that renders phthisical but that single member of a family who is devoted to a phthisical mother, or sister, or father, and who passes nights bent over the bed of the sufferer.

A female domestic, twenty-five years of age, came to Paris from the country, where her father, mother, a brother, and a sister, lived in ex-

cellent health. The woman herself was robust and in good health. She entered into the service of a person who afterwards died phthisical, and passed whole nights by the bed-side of the patient. After a certain time she was attacked with spitting of blood, and at the end of six months presented symptoms of advanced tuberculization.

Many things happen in the army which ought to direct attention to the subject of the transmissibility of phthisis. A phthisical soldier enters a hospital and dies there; his garments are returned to the storehouse of the regiment and given to a fresh arrival; his bed is immediately occupied by another. May not this transmission of clothes and bed linen from one soldier to another be a source of tuberculization in the army? M. Villemin is convinced that the *caserne* is to the soldier in the production of phthisis, what the regimental stable is to the horse in the development of farcy, the contagion of which latter disease has been accepted, though reluctantly, by the opponents of contagion and transmission. But though the mode of transmission can be readily observed in the disease of animals, in whom every act passes under our notice, it is not so with man, who, from his complete social relations, is subject to numerous contacts difficult to be determined. Is the phthisical patient always sure that the furnished apartments he occupies were not previously held by a phthisical patient? The proof of this and many other points is generally absent in large towns, but in the country the mode and course of the transmission can be more readily made out.

The following curious facts were recently communicated to M. Villemin by Dr. Léger:—

Case 1.—X., formerly a resident in the Rue St. Jacques, and afterwards in the Boulevard St. Germain, previously of excellent health, and of a family free from phthisis, married a woman who subsequently died with vast cavities in her lungs. The man married again, and six months after his second marriage was attacked with hæmoptysis. Tubercles and cavities in the lungs could be made out; he died at the end of two and a half months. The second wife was also affected and died phthisical in a very short time. She had enjoyed good health up to the time of her marriage, and was not aware that there had ever been any tuberculous diseases in her family.

Case 2.—Lemaire, hatter, 20, Rue St. Morny, a hardworking, robust man, with a dark complexion, married a phthisical woman, who died in about one year. Six months after Lemaire commenced to cough, and he died tuberculous after suffering for eighteen months. He asserted that his wife had infected him, and that he had often been obliged to rise in the night and open the windows, as the acrid odour of her perspiration stifled him and made him sick.

Case 3.—Andreau was married in 1848 to a woman who became phthisical, although she was a well-made and large-chested brunette from Auvergne. She died in six months from cavities in the lungs. Andreau married again, and his second wife, notwithstanding her very robust appearance, died in a year from tuberculosis. Andreau then married a third wife who, though a woman of good constitution, followed the same fate as the two previous wives. Finally, Andreau himself was, in his turn, attacked by the same disease, and died after having lingered for eighteen months.

M. Léger declares that he will no longer authorize a marriage with a phthisical person, nor permit any one to sleep in the chamber of a

tuberculous individual, to wear his clothes, or to make use of his bed linen.

M. Villemin, in conclusion, states that the object of his paper was to attract attention to a possible mode of the production of tuberculosis, which, if proved, would be the source of new and important measures of prophylaxis.

Art. 65.—*Electricity in Pulmonary Consumption.*

By Dr. Elsberg.

(*New York Medical Journal*, December, 1867.)

The value of systematic exercise of the muscles of the chest in the earlier stages of phthisis is very generally recognised. Dr. Elsberg, of New York, in a communication to the Philadelphia *Reporter*, urges the employment of electricity for this purpose, after the manner first proposed by Dr. Bastings, of Brussels, in his essay *De la Phthisie Pulmonaire*. The following advantages are claimed for this system of muscular gymnastics.

1. It can be applied directly to any special muscle or set of muscles which the physician desires to bring under its influence.
2. It can be carried out daily, at all hours and seasons.
3. It does not fatigue or exhaust the patient.
4. It can be employed at all ages and in every condition of debility.
5. It can be applied in the patient's house, in bed, &c.
6. Even when absolute rest is requisite, such as in pulmonary hæmorrhage, it may be employed.
7. The injurious influences of the weather and other inconveniences inseparable from other kinds of exercise or muscular gymnastics are avoided.
8. It acts more powerfully and in less time than any other gymnastics.

Art. 66.—*On the Value of Arsenical Medication in the Treatment of Pulmonary Phthisis.*

By M. Moutard-Martin.

(*Archives Générales de Médecine.*)

The following are the conclusions given by M. Moutard-Martin in a paper read before the Académie de Médecine:—

1. Arsenical medication has a very marked action upon pulmonary phthisis.
2. The action of arsenic is more efficacious in slowly-progressive or torpid phthisis than in phthisis accompanied by fever.
3. Rapidly progressing phthisis and acute granular phthisis are in no way modified by arsenic.
4. In a great number of cases, even of advanced phthisis with hectic fever, the general condition of the patients is favourably modified, at least for a certain period, which may be tolerably long.

5. Modifications are produced less rapidly in the local lesions.

6. A certain number of cures may be attributed to arsenical medication, which would be more frequently successful if the patients did not think too early that they were cured, and had more perseverance.

7. The treatment in order to be efficacious ought to be continued for a long time.

8. The arsenic should be administered in extremely fractional doses.

9. The daily doses need not exceed two centigrammes.

10. Arsenic is better tolerated by patients in the early stages of the disease than in those who have reached the stage of consumption.

11. The action of the arsenical medication is chiefly manifested in an improvement, and secondarily in a modification of the pulmonary lesion. Certain facts, however, prove that arsenic exerts a direct action upon the function of respiration; it may influence the pulmonary tissue itself and tubercle.

Art. 67.—*Remedial Measures in Advanced Phthisis.**

By Dr. Thorowgood.

(*Medical Times and Gazette*, March 7.)

The first part of the paper drew attention to the fact that life is often prolonged far beyond expectation in cases in which cavities have existed for some time in the lungs. In illustration, notes of cases, taken chiefly from among the out-patients at Victoria-park Hospital, were given in detail. In respect of treatment, a good deal of stress was laid on a dry and bracing atmosphere, and on avoiding all places which were reputed damp or relaxing. Confinement in one room was spoken of as a very pernicious practice, as then the patient is poisoned by the exhalation from his own diseased lungs. Among medicines, the hypophosphite of lime was highly commended. Iron was spoken of as being useful when there was obvious anæmia. The pancreatic emulsion had been used in a few cases with advantage. The author then spoke of the eliminative treatment, so as to oxidize and eliminate effete matter collected in the blood, and concluded by exhorting the medical practitioner not to use one routine method of treatment, but to consider the merits of each case, and to apply the ordinary principles of pathology, so as to unravel the morbid phenomena, and then bring about a more successful plan of treatment.

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* Abstract of a paper read at a meeting of the Medical Society of London, February 10.

(c) CONCERNING THE CIRCULATORY SYSTEM.

ART. 68.—*On Basedow's Disease.*

By Professor OPPOLZER.

(*Allgemeine Wiener Medizinische Zeitung*, No. 2, 1868.)

This disease takes its name from Basedow, a physician of Merseburg, who was the first to give a thorough description of this very singular affection, and an appended illustration of the morbid symptoms that present themselves in connexion with it. It is a complication of three affections, which experience unquestionably proves are clearly connected together, and consists in a cardiopalmus associated with swelling of the thyroid gland, and with exophthalmus. There is no doubt that this combination of anomalies arises from one common cause. Still, although a considerable number of observations have already been made, there is some doubt concerning the nature of the disease.

The reports concerning the morbid anatomical changes are not as yet uniform. Too small a number of post-mortem examinations are recorded, and these present no certain points by which we can obtain any knowledge of the nature of the disease. With regard to the organs of circulation in the first place, no important changes in the heart and large vessels were found in the majority of cases, before Dr. Stokes discovered the vessels to be somewhat enlarged and very tortuous. Some authors mention that the left ventricle is found slightly dilated and hypertrophied; valvular incompetency has also been noticed in many cases, but this change seems to be rather an accidental complication, and one unconnected with the characteristic lesions of this disease, since in other cases, even when there had previously been excessively noisy movements of the heart, no kind of degeneration of the valvular apparatus was discovered. The exophthalmus seems from similar observations to be caused by an hyperplasia of the cellular and fatty tissue placed behind the bulb.

Taylor lays great stress on the dilatation of the blood-vessels existing behind the bulb, and also on the hyperæmia of the tissues. Considerable importance must generally be attributed to the dilated and tumid blood-vessels of the neck, which have been found in most post-mortem examinations. These changes might be associated with the degeneration and the pulsation of the thyroid gland, the vessels of which, arteries as well as veins, are generally found very much dilated and swollen.

Concerning the symptoms of this remarkable threefold disease this much may be stated, that in the majority of cases the commencement of the affection is first revealed by a troublesome palpitation of the heart; the two other changes come on at a later period, the enlargement of the thyroid gland being generally first in order, and next the exophthalmus. Sometimes, however, this order is reversed, and the disease is not unfrequently preceded by certain nervous symptoms, which in females are of an hysterical nature. The cardiopalmus manifests itself by a frequent and intense beating of the heart, which is distinctly visible, and is as a general rule increased by bodily exertion or mental excitement, so that

even the whole of the thorax is shaken, and a great deal of anxiety consequently produced. The frequency and intensity of the cardiac beatings vary according to the different stages of the disease. The number of beats mounts to from 150 to 200 in the minute. Oppolzer has observed a case in which the frequency increased at times to such an extent that it could not be estimated. In many slighter cases the cardiac palpitations are found to be less frequent, so that not more than 150 beats can be counted in the minute; in such cases the condition of the heart is subject to no distinct anomalies, an increased action alone is discovered ; in the more intense cases, on the other hand, an increase in the volume of the heart may generally be made out. In one very severe case, Oppolzer observed the heart to be hypertrophied in every direction. It is remarkable that the pulse is generally small, and possesses no great power of resistance. In the more severe cases the practitioner may convince himself of the existence of systolic bruits, in less advanced stages a systolic murmur may be heard. In a case of a woman, forty-three years of age, the heart's beat could be clearly and perfectly followed from the sixth to the third intercostal spaces and close to the axilla on the left side, with each movement of the heart the sternum was considerably shaken. The dulness on percussion showed an increased volume of the heart in every direction; although the central organ beat very strongly, the arterial pulse was yet remarkably small and weak. The arteries of the head pulsated actively, and on auscultation a sound could be heard similar to that produced in cases of incompetency of the aortic valves. The arteries of the head and neck, in an advanced stage of the disease, generally present an enlargement and strong pulsation, and distinct and loud sounding bruits. The large venous trunks are also enlarged, and give out a blowing sound.

The development of bronchocele commences sooner or later after the development of the heart affection. The enlargement of the thyroid gland extends laterally rather than forwards. Observations show that all the lobes of the gland mostly take part in the hypertrophy ; the projection forwards does not commonly attain so high a degree as in other forms of thyroid enlargement, although in this affection there are exceptions to the general rule. Some observations are reported in which there was excessive hypertrophy of the right lobe. The consistency of the tumour is in the majority of cases soft and elastic, and on applying the hand over it, pulsation and vascular trembling may be felt. At first merely an hyperæmia of the tissue of the thyroid gland and dilatation of its vessels are commonly observed, but at a later date a true hypertrophy comes on. Most observers agree that in this disease the enlargement of the thyroid body attains only a moderate degree. Observations to the contrary, however, are not wanting, as Oppolzer has observed a case in which the swelling was very extensive. It is generally accepted that Basedow's disease is merely a vascular form of bronchocele, and that when cystoid and colloid degeneration occur, and also the lobulated enlargement, the disease is to be looked upon as a complication of exophthalmic goitre, with common thyroid lesions. Still it cannot be conceived why this vascular affection itself should not with long continuance of the disease, and long persistence of the hyperæmia, attain a true hypertrophy capable of taking several forms.

The exophthalmus likewise gradually increases in extent with the progress of the lesion; this symptom is generally added after the first two have been developed in a greater or lesser degree. Sometimes it happens, however, that the exophthalmus is developed simultaneously with the bronchocele. The exophthalmus usually commences in both eyes at the same time, and both bulbs project more and more from their orbits, but on the other hand, it occasionally happens that the projection is more extensively developed in one eye. A case was observed by Prael in which the exophthalmus for a long time was unilateral, but subsequently affected both sides. By pressure of the flat hand the bulb can in most instances be readily replaced, but on removing the pressure the eye again projects from the orbit. The exophthalmus may attain varying degrees of extent. In many cases there is but a slight prominence, in the severest forms the projection is so considerable that the lids cannot be closed, and the eyes during sleep are half opened.

Nothing special has hitherto been indicated by the ophthalmoscopic appearances in Basedow's disease. In the cases observed by Professor Oppolzer, the movement of the bulb, even with well-developed exophthalmus, was either slightly or not at all restricted. Slight restriction, when it was noticed, seemed to concern the upward movements of the eye. Cases, however, are cited in which the movement of the bulb inwards or outwards was attended with difficulty, and the function of the internal or external rectus muscle was therefore hindered. In Oppolzer's cases there was no real impairment of vision; Schoch, however, has reported a case in which there was double vision and amblyopia. Upon the whole it may be expected that, with the exception of the exophthalmus, no constant and characteristic phenomenon is observed in the eyes. Anomalies in the movements of the lids are seldom observed, and the closing of the eye is hindered rather by the prominence of the bulb than by impairment of the palpebral movements.

The condition of the pupil varies. In the majority of cases there is no marked deviation from the normal condition. Still, it is possible to make out that the pupil is somewhat enlarged; and when other morbid conditions of the pupil are found, they are probably due to some accidental complication. The media of the eye present no abnormal change. A case has been reported by Gildemeester, where there was mydriasis of both eyes. This condition, however, was of short duration, and disappeared during the further progress of the disease. Graefe, on examining some patients suffering from Basedow's disease, discovered a peculiar condition of the eyelids. The lids, the upper one particularly, did not follow the movements of the bulb at the commencement and termination of each glance of the eye. Graefe mentions also that he has discovered on ophthalmoscopic inspection, dilatation of the retinal veins, which are broader and more tortuous than in their normal condition.

With this exception the structures of the interior of the eye are unchanged. The signification of the exophthalmus in Basedow's disease has not on the whole been well explained. Kussmaul thinks that an increase in the cerebral arterial supply produces enlargement of the pupil and the cleft of the lids, and in consequence of this gives rise to an advance of the bulb.

Other disturbances which are met with in the eye in connexion with

Basedow's disease are of secondary importance, and are relatively but slightly detrimental. They arise from the incapability of the lids to cover the whole front of the bulb, and to protect it. Irritation and inflammations of the conjunctiva take place in many individuals. The cornea may also become infiltrated from the same cause. Dull yellow spots form: these appearances, however, are presented only in cases where the exophthalmus is very considerable, and has lasted for a long time.

In females other disturbances are observed in addition to the group of symptoms just detailed. These patients may present anæmic and chlorotic symptoms corresponding to the commencement and to the course of the disease. These symptoms, however, are by no means constant, and occurred in two only of the cases observed in Professor Oppolzer's *clinique*. In one case the menses ceased at the commencement and during the whole course of the disease, which lasted for a year and a half. The patient complained of several nervous symptoms, as frequent headache and vertigo, noises in the ear and frequent loss of sleep. At times, and generally at night, she was seized by a feeling of anxiety and restlessness which could not be overcome; there was also a feeling of exhaustion and oppression. These symptoms were not persistent, at times they were altogether absent, when the woman enjoyed a happy disposition.

In addition to the various neuroses observed by authors, some singular psychical dispositions are reported, and also hysterical symptoms and great irritability and excitement. Centric neuroses occur less frequently. Basedow himself observed in several of his patients an abnormal condition, which manifested itself in frequency and haste of the movements of the limbs and face, and of speech.

Nutrition is impaired in most instances; the appetite is frequently disturbed, and there is often nausea and vomiting; these symptoms generally occur in cases where the disease has lasted for a long time. There is emaciation. In women menstruation generally ceases. In most instances there is a febrile constitution; although no anomalies of temperature are presented, alternate rigors and increased heat occur, which however manifest themselves merely as subjective symptoms.

Epistaxis and other hæmorrhagic tendencies occur among the frequent symptoms of the disease, in consequence of the frequency of the heart's action and the flow of blood to the head; and there is also not unfrequently extensive congestion of the lungs, giving rise to severe bronchial catarrh, distressing cough, dyspnœa, and even dangerous attacks of suffocation and of hæmoptysis.

Art. 69.—*On the Treatment of Acute Pericarditis with Opium.*

By Frederic J. Farre, M.D.

(*St. Bartholomew's Hospital Reports*, vol. ii., and *British and Foreign Med.-Chir. Review*, January, 1868.)

During the last three years Dr. Farre has treated in the hospital eleven cases of rheumatic pericarditis, in all of which nearly the same

plan was adopted, although in a few the complications which occurred required the use of some additional remedies. Dr. Farre's practice differs from that of some others, in the omission of mercury in pericarditis, for although he still believes that this metal generally has the power of arresting the effusion of fibrine and of promoting its absorption, he considers that the peculiar nature of pericardial inflammation interferes with this action. But opium tranquillizes the heart, and by procuring rest for that organ, it promotes the cure of pericarditis, just as it promotes the cure of peritonitis by tranquillizing the intestines, and diminishing their peristaltic action. Dr. Farre employs blisters in pericarditis, not only when effusion has taken place, but in every case as soon as pain is felt in the heart, and he generally finds that they afford the same relief as leeches or cupping. In all the eleven cases recorded by Dr. Farre except one the results were satisfactory. The exception was that of a boy who, during the treatment, died suddenly "in a fit."

Art. 70.—*On Palpitation.*

By Benjamin W. Richardson, M.D., F.R.S.

(*Medical Times and Gazette*, January 28.)

There is of course no known specific for intermittent heart, but whenever the symptom of intermittency is present, the following general lines of treatment should, Dr. Richardson says, be enforced by the physician:—

1. In the case of young children, when the intermittency is clear, however infrequent it may be, the utmost care should be taken to avoid every source of mental excitement. A child so circumstanced should, under no pretence and for no purpose, be oppressed with study. He should be subjected to no amusements which powerfully excite the mind; he should at no time be exhausted by physical fatigue; he should be well fed, warmly clothed from head to foot, and, above all things, should be allowed to have abundant sleep. Ten to twelve hours' sleep is not a whit too much. Moreover, such a child should never be put to sleep with stories which excite dreams or cause alarm.

2. In adults equal care should be taken, and above all things, attempts should be made to remove impressions derived from any untoward event. Change of scene in this way often proves of essential service, while a carefully regulated diet, abstinence from exhausting pleasures, and abstinence from exhausting labour, especially mental labour of one particular kind, should be encouraged. Good sleep is here again the most valuable of remedies. Eight hours of sleep out of the twenty-four are essential—nine hours are still better. Two special points of advice are of vast moment to such persons. It not unfrequently happens that, by accident or by direct information, they learn the fact that their pulse does intermit. Then they begin to feel their own pulse, and become charged with dread of sudden death. As the disorder is of itself cerebral, this watchfulness and fear increase the frequency of the intermittency. With these patients, a word from the physician timely

and firmly spoken is often the best prescription. You assure them on your experience that their malady is not of necessity fatal; you command them not to inquire after the symptom, and if you can succeed in persuading them to your views, which you may honestly try to do with all your influence, you will effect the most marked improvement in their condition. Again it sometimes happens that patients conscious of the failure of the heart resort to alcoholic stimulants as a means of relief. For a moment, by exalting the cerebral activity, they experience relief from the alcohol, but the depression that follows calls the more rapidly for a return to the supposed remedy, and a factitious benefit leads to a habit which excites structural changes, and, of all things, hastens death.

3. In case of sudden intermittency with symptoms of cerebral congestion, depletive measures are sound. A purgative is essential, and blistering at the back of the neck is always useful. I have seen great advantage in these cases from abstraction of a moderate quantity of blood by the cupping glasses.

4. In the extreme forms of cardiac intermittency, while all the general rules laid down in Nos. 1 and 2 hold good, it becomes often imperatively necessary to subdue cerebral excitement, and to induce cerebral rest. For this latter purpose, opium is the sheet anchor. It must be given freely when it is given, and not too frequently. Small and repeated doses of opium excite, depress, and give no rest. A full dose, equivalent to a grain or even two grains, on the contrary, produces no excitement, but gives sound sleep and that quietude of cerebral circulation which is essential to secure satisfactory relief. I have sometimes, where there was much depression, combined full doses of opium with full doses of quinine, and with marked benefit.

5. Concerning old people who suffer from what may be called chronic intermittency without oppressing symptoms, no special rule requires to be laid down. They are themselves usually too tired of the excitements of life to care for them, and if they are not, then the observance of the general principles applicable to children and adults extends equally to them.

(D) CONCERNING THE ALIMENTARY SYSTEM.

ART. 71.—*On Gastric Epilepsy.*

By G. E. PAGET, M.D., Physician to Addenbrooke's Hospital, Cambridge.

(*The Lancet*, April 11 and 18.)

Dr. Paget is of opinion that in many cases of epilepsy the immediate exciting cause of the fits is in the stomach, and that in some a cure can be effected by correcting the gastric disorder.

In very many cases however, Dr. Paget says, we have to take into account an epileptic diathesis, either congenital or acquired, in consequence of which the fits will recur, notwithstanding all our care in correcting the local exciting cause. We have then the additional task

of removing or correcting this diathesis—this diathesis of the nature of which we know so little, of which we do not even know whether it be one state only, or whether, in our ignorance, we do not include under this one term several distinct and dissimilar states. How can we do this? No reasoning can help us here. Nevertheless, we are not entirely at a loss. Direct experience has taught us that certain drugs and certain kinds of regimen have some control over those states of the nervous system which predispose to epileptic fits. Oxide and valerianate of zinc have such power, and so have belladonna and bromide of potassium. These certainly exert an influence over epilepsy, an influence which we cannot doubt, though we know not their *modus operandi*. Direct experience has again and again proved their power when suitably used, not only in epilepsy, but in other affections of the nervous system.

In most cases of epilepsy we must direct our treatment to *two* ends—to remove the local irritation, and to correct the epileptic diathesis.

In one case of gastric epilepsy narrated by Dr. Paget, he prescribed moderation in eating, and abstinence from all indigestible food and from all fermented liquors. For medicines, he ordered three grains of valerianate of zinc to be taken thrice daily; and a draught of gentian mixture with senna, eleven fluid drachms, and compound tincture of rhubarb, one fluid drachm, to be taken on the occurrence of any of the symptoms which had commonly preceded a fit.

Dr. Paget knows not exactly how long the medicine was continued, but the rest of the advice was honestly and persistently followed. The result was a perfect cure.

Art. 72.—*On Enlargment of the Stomach.*

By Dr. Oppolzer.

(*Wiener Medizinische Wochenschrift*, 1867; *Schmidt's Jahrbücher*, No. 1, 1868.)

Enlargement of the stomach is a very common secondary affection. It may be caused by paralysis of the muscular layer, or by contraction of the pylorus or duodenum. The first cause results, in the majority of cases, from chronic gastric catarrh, which may be connected either with fatty degeneration of muscle or with condensation of connective tissue. Inflammation of the serous coat of the stomach, or an attack of gastritis, produces a similar result. Paralysis of the muscles also occurs frequently during severe illness, in typhus, puerperal fever, septæmia, the acute exanthemata, bad small-pox, scarlatina, putrid measles. The pylorus is contracted through hypertrophy of the coats of the stomach, and by pathological new formations and scars which have been produced in some cases after poisoning, in others after ulcers. Considerable stenosis was found in a child who had swallowed sulphuric acid, the passage of the pylorus was so contracted in consequence of a cicatrix, that it scarcely admitted a quill. Stenosis of the pylorus may also be produced by the pressure of neighbouring tumours, this pressure being exerted from behind forwards, when it

acts in an opposite direction from before backwards, the contraction is less on account of the yielding of the abdominal walls. In a similar manner may the duodenum be rendered impassable through cicatrices, tumours, and organization of peritonitic exudations.

In many cases there is presented in the region of the stomach, an arched swelling with the convexity directed downwards, and in which the peristaltic movements can occasionally be perceived. The swelling is soft, elastic; the fluctuation is frequently intense and audible. A vigorous shaking of any part of the stomach causes a splash as of fluid in a vessel. At the upper part of the tumour the percussion sound is clearly tympanitic, below this sound is much deadened; the limits of these clear and dull sounds vary with changes in the position of the body. Only in instances of great distension of the coats of the stomach is the tympanitic sound wanting, when it is replaced by a full sound. On auscultation may be heard rushing and bubbling noises, as if from the bursting of a quantity of air bubbles. This crepitation, of which the patient is often sensible, is produced by the giving off of gases formed by abnormal decomposition.

The subjective symptoms are: a sensation of pressure and fulness in the region of the stomach, frequent and occasionally sour eructations, nausea, difficulty of breathing after much exertion. These evils are relieved by vomiting. The matter thrown up is generally a yellowish brown and frothy fluid, containing an immense quantity of sarcinæ. In some cases there is a morbid increase of the appetite.

When the enlargement of the stomach is due to paralysis of its muscular coat, the contractile power of this tissue may be at least partially regained after the cure of the primary lesion. With enormous dilatation erosion may result from tearing of the blood-vessels, and the nutrition of the stomach may become so much impaired as to cause symptoms of emaciation during life.

Enlargement of the stomach may be diagnosed from ascites, from the fact that in the former affection the seat of the clear percussion sound, and also of the splashing noise, though frequently varying in situation, is always heard over a strictly circumscribed space. The confusion of the two will be impossible when the hissing and bubbling noises are revealed by auscultation. The prognosis depends upon the primary lesion.

The object of the treatment is to remove the original lesion, and to supply fitting nourishment. Starchy and saccharine articles of food are to be abstained from, on account of their conversion into lactic acid. For the purpose of obviating abnormal decomposition of the food, the best means are large doses of the bicarbonate of soda, or the chloride of sodium; if these do not suffice, the administration of creasote (five drops in twenty pills, made up with the powder and juice of liquorice, one to be taken at noon) can be recommended. In paralysis of the muscular coat, nux vomica is administered as a treatment of the primary lesion.

Art. 73.—*On the Treatment of Ulcer of the Stomach.*

By Balthazar W. Foster, M.D., M.R.C.P. Lond.

(*The Lancet*, April 25.)

For some years past the value of a treatment which affords *complete* rest to the stomach in its serious disorders has been increasing, in Dr. Foster's estimation, and the application of the plan to the treatment of ulcer of the stomach, and to many other lesions of the viscus, has strongly confirmed his opinion. During the first stage of the treatment the patient should be kept strictly to the recumbent posture, all food or drink by the mouth entirely forbidden, and nutritive enemata frequently administered; thus we procure for the stomach a long rest from all mechanical irritation, and from all physiological action. In the second stage, by a carefully regulated diet we should afford that *partial* rest necessary to perfect the cicatrization, and to accustom the new tissue to the stimulus of the digestive act. The indications which we have to fulfil in the treatment of ulcer of the stomach are two—first, to promote the healing of the ulcer, and secondly, to alleviate the symptoms. By giving the viscus *complete* rest from all physiological action, from all mechanical irritation, we remove the great impediments to the healing process, which consist in (1) the movements of the stomach consequent on the ingestion of food, and (2) in the mechanical and chemical irritation of the ulcerated surface produced by the food and gastric juice. The second indication is also fulfilled, for the pain and vomiting cease, and the hæmorrhage seldom if ever returns; while the patient, placed in the conditions for causing the least possible tissue-waste, is fairly nourished, and in many cases even strengthened, by the use of suitable nutritive enemata. In Dr. Foster's hands this treatment has succeeded so well that he has every confidence in describing it as at once the most easy, the most rapid, and the most efficacious. In some twelve cases of gastric ulcer, and in several cases of ulceration from the action of corrosive fluids, as well as in other grave disorders of the digestive functions, Dr. Foster has obtained from it the most satisfactory results.

Art. 74.—*On the Circular Ulcer of the Stomach.*

By Dr. Gerhardt.

(*Wiener Med. Presse*, No. 1, 1868; and *British Medical Journ.*, May 9.)

Dr. Gerhardt believes that a gastric ulcer is generally produced by some obstruction of the circulation in the blood-vessels of the stomach, in consequence of which at a certain part of the inner coat of the viscus the alkaline blood-plasma is not supplied to neutralize the acid excretion of the gastric glands, which then acts upon and dissolves the mucous membrane. The lesion is in many instances attributed by the patients to some injury over the stomach, or to a severe attack of vomiting. The greater the excess of acid in the stomach and the smaller the amount of blood circulating in this organ, the more readily is a gastric

ulcer produced; and for this reason are chlorotic and ill-nourished individuals more frequently affected, and also brandy-drinkers whose eructations are intensely acid. Dr. Gerhardt's treatment consists chiefly in putting the patient upon a very regular and a long continued diet made up of milk, white of egg, and meat. To make this tolerable, the use of small quantities of white bread, green vegetables, and cooked fruits is occasionally allowed. The pain attending gastric ulcer is relieved by astringent agents, particularly sesquichloride of iron, nitrate of silver, and bismuth; the first named remedy is indicated when the patient is exhausted and anæmic from hæmorrhage, and it has the advantage of not depositing the peptones. Dr. Gerhardt objects to the use of morphia except in cases of severe vomiting, when he injects this agent subcutaneously. When an excessive amount of gas is found in the stomach, the internal administration of charcoal and cold applications externally will prove of great service.

Art. 75.—*On Indigestion in Gout.*

By Samuel Fenwick, M.D., Lecturer on Comparative Anatomy at the London Hospital Medical College.

(*The Stomach and Duodenum.*)

The following case, reported in Dr. Fenwick's elaborate work on *The Morbid States of the Stomach and Duodenum*, illustrates this form of dyspepsia:—

An old gentleman was suddenly attacked during the night with intense pain in the left side, which obliged him to sit upright. There was no vomiting or tenderness of the epigastrium. His face was very pale and anxious, the pulse feeble, the respiration quick and constrained. He had been for many years a martyr to gout, but for some time previously had escaped its accustomed visitations. A mustard blister was applied to the epigastrium, and a dose of ether and brandy was given. A large amount of flatulence was removed, with immediate relief to the oppressed heart, and a stimulating purgative next day completed the cure.

Art. 76.—*Functional Disease of the Colon: Catarrh; Flatulent Distension; Fermentation; Chronic Muco-Colitis.*

By S. O. Habershon, M.D., Physician to Guy's Hospital, &c.

(*The Lancet*, January 4, 1867.)

In the year 1859 Dr. A. Clark described in the *Lancet* some instances of mucous discharge from the rectum; but in the cases to which Dr. Habershon alludes the whole of the large bowel was affected, and the abnormal discharge was not always a prominent symptom.

The indications of this affection of the colon may be briefly enumerated. The action of the bowels is irregular, the evacuations being at the commencement hard and consistent, but afterwards semi-liquid: this

alteration often takes the form of constipation followed by diarrhœa; at other times small scybalous masses only are passed, with a considerable quantity of gas; and thirdly, the ejecta may consist only of mucus, gelatiniform in appearance, or of long worm-like masses, resembling entozoa. These discharges are in some cases unusually offensive in their character, and thus induce increased distress to the patient. In rarer instances the evacuations present a frothy, yeast-like appearance, as if the fæcal contents of the colon had undergone fermentation. Another symptom, and a very characteristic one, is flatulent distension of the colon; this distension comes on several hours after a meal, and is often a source of annoyance to the patient during the night. Pain may be entirely absent, but attacks of griping pain often come on in the course of the colon (not always in a fixed position), and leave some tenderness. If the irritation extend to the rectum, then pain during defecation and tenesmus are of a more marked character. The general strength is not much impaired, and the patient states that he would be quite well if the bowels were quiet; but more frequently there is pallor, and an inability to bear wonted fatigue. The nervous system is manifestly not in its full vigour, and the vaso-motor nerve is so sensitive in its sympathetic connexions that, when the bowels are acted upon, there is often a sense of great prostration produced, or even syncope. In other cases there is general depression, almost amounting to melancholia, and there is inability to take active exercise, or to grapple with the worry and fatigue of ordinary life. The tongue is clean, the pulse quiet but compressible, the appetite good, and the stomach is apparently equal to primary digestion. In men, the bladder sympathizes, and there is sometimes frequent desire to pass urine; in young women, Dr. Habershon has frequently found this state of the colon associated with dysmenorrhœa and ovarian irritation. In young children this sympathy is shown by muco-purulent discharge from the vagina, and by external irritation and erythema. Again, in advanced life, it seems to perpetuate and to aggravate, if it do not induce, that most troublesome form of hyperæsthesia, pruritus of the external sexual organs.

When the malady thus briefly described is acute in its character, the catarrh of the colon manifests itself by diarrhœa, the evacuations containing much bilious-coloured mucus, and by sympathetic irritation of the adjoining structures. The chronic form of catarrh consists in a disordered condition of the mucous membrane, and is sometimes the sequel of the acute attack, or of more severe forms of inflammatory disease. The mucous membrane sometimes presents cicatrices, but the disease has then supervened upon dysenteric affection. More frequently grey zones are observed around the follicular glands, the pigmentary deposit showing the former congestion of the vessels; the mucous membrane is thickened, and if the mucus be examined by the microscope, corpuscles of various size will be observed, and sometimes the secretion has an evident tendency to fibrilate; small scybala are often found in the sacculi of the intestine; the muscular coat is weakened and the bowel distended sometimes to a great extent, the larger calibre of the intestine requiring proportionately increased power for the propulsion of the contents. The transverse colon is sometimes noticed to make a curvature downwards, and forms almost a second sigmoid flexure. But these pathological

changes of structure and secretion do not guide to the full explanation of the symptoms; or the contents of the intestine undergo fermentative changes with the evolution of gaseous products, and this distension becomes the cause of pain, and of the distressing symptoms already enumerated.

This condition of catarrh of the colon is augmented by hepatic congestion: the inferior mesenteric veins and the hæmorrhoidal veins become distended, and the morbid activity of the mucous membrane is thereby increased.

The constant use of powerful drastic purgatives is a fertile source of disease of the colon: the oft-repeated irritant effect produces persistent congestion. Neglected constipation is another cause of catarrh of the colon. Hæmorrhoids also, becoming inflamed, transmit irritation continuously upwards to the sigmoid flexure, and to the colon. Other sources of aggravation or of predisposition are frequently present; and Dr. Habershon found this catarrhal state in ague, in gout, and in diabetes. The habit of taking snuff, and of smoking to excess, may also induce it.

The condition described is widely different from the serous diarrhœa so often observed in disease of the kidney; and although it may be present as the sequel of dysenteric disease and ulceration, it may be quite independent of such changes. It is distinct also from the diarrhœa which accompanies atrophy of the mucous membrane of the small and large intestine, as well as from that connected with lardaceous disease of the bowel. As far as this state is constitutional in its character, it is relieved by general treatment; but it often assumes a troublesome persistency as a local catarrh. The colon is so far removed from the stomach by the whole length of the small intestine that it is difficult to apply local agents by the ordinary means, and Dr. Habershon finds great benefit from the use of enemata.

If the catarrh have flatulence as one of its prominent symptoms, the injection of powdered charcoal with thin gruel often affords considerable relief; at other times borax similarly applied is of service. But where the catarrhal irritation is in the rectum, a dilute solution of nitrate of silver may be used as an injection with great benefit, two to five grains to the ounce

As to internal treatment, the indications appear to be the removal—1st, of portal con stion; 2nd, of retained scybala; 3rd, of offending mucus; 4th, to check fermentative action in the contents of the bowel; and 5th, to strengthen the patient if there be any constitutional weakness.

Whatever means of relief are used, little effectual benefit can be expected unless the patient is willing to follow a carefully regulated diet, and to avoid the use of stimulating drinks, especially ardent spirits. Nitro-hydrochloric acid appears not only to lessen the quantity of mucus, but to act beneficially upon the excretory glands. Small doses of blue-pill, combined with rhubarb pill, quinine, and henbane, act more powerfully upon the abdominal glands; but if the mercurial be continued, it tends to augment the malady by inducing greater relaxation of the mucous membrane. Some are partial to the use of taraxacum; but its good effects are quite problematical; and if there be

diarrhœa, gallic acid or quinine, with Dover's powder, and ipecacuanha, with krameria or similar astringent products, are of service.

To check the flatulent distension of the colon from gaseous evolution, creasote and carbolic acid hold a deservedly prominent position; and when there is also diarrhœa, *carbolate of lime* may be given internally with marked benefit. The carbolate of lime as prepared by Mr. Squire, of Oxford-street, is perfectly white, and the smell is not so strong as the ordinary carbolate of lime used as a disinfecting agent. Dr. Habershon has generally given it in one-grain doses combined with henbane; in the diarrhœa of phthisis, where there is evidence of fermentative changes in the colon, he has repeatedly used the carbolate of lime with good effect.

(E) CONCERNING THE GENITO-URINARY SYSTEM.

ART. 77.—*On the Treatment of Albuminuria.*

By W. H. DICKINSON, M.D.

(*British and Foreign Medico-Chir. Review*, April, 1868.)

The plan of treatment adopted and strongly recommended by Dr. Dickinson in this disease is worthy of mention, as being a good deal at variance with that so generally in vogue among us. Purging with jalap, and other active remedies of the kind are condemned, for the reason that the water of the blood is thus diverted from the clogged tubules. The real object in view is to increase as much as in your power lies the secretion of water at the kidney itself, and thus flush out the choked-up tubules. On this principle he gives copious draughts of water to his patients, and repeated doses of digitalis (infus. digit. f. ʒj to f. ʒiv, ter in die). "In the majority of cases thus treated the urine will increase, the dropsy diminish, and the patients pass into convalescence without the occurrence of the various secondary evils which tend to swell the mortality of the disease." Iron, especially the perchloride, is of course highly spoken of in the after-treatment. When uræmia and head-symptoms have declared themselves, he seems to place but little faith in any treatment. "Blood-letting is out of the question." And again,—"The attacks, when of the convulsive character, frequently pass off of themselves, leaving the patient much as before." He thinks that chloroform has the power of holding in check the convulsions, but must be used with great care.

ART. 78.—*On Albuminuria and Disturbances in the Nutrition of the Lower Limbs from Changes in the Spinal Cords.*

By M. PERROND.

(*Gazette Médicale de Lyon.*)

The following are the conclusions given in a paper read before the Society of Medical Sciences of Lyons:—

1. Albuminuria and changes in the nutrition of the lower limbs may be met with in cases of myelitis as results of the lesion of the spinal cord. These phenomena have been demonstrated by clinical observation and physiological experiments.

2. In instances of this kind, the albuminuria and faulty nutrition are active phenomena resulting from irritation, and are very different to the simple congestion with increase of temperature produced by Claude Bernard in the lower limbs by cutting the fibres of the lumbar sympathetic; the latter are simple passive phenomena resulting from paralysis.

An interesting case is reported in M. Perrond's paper of nervous albuminuria with nutritive disturbances by irritation.

Art. 79.—*On certain Points in the Anatomy and Pathology of Bright's Disease of the Kidneys; and on the Influence of the Minute Blood-vessels upon the Circulation.**

By George Johnson, M.D., F.R.C.P., Physician to King's College Hospital.

(*Medical Times and Gazette*, January 4.)

It is now generally admitted that cases of chronic Bright's disease may be arranged in two distinct classes:—1. Cases in which the kidney is large, pale, and smooth on the surface. 2. Cases in which the kidney is small, red, and granular. In the forty-second volume of the *Medico-Chirurgical Transactions* the author pointed out the chief features by which the two classes of cases may be distinguished. There is some difference of opinion with regard to the anatomy and pathology of the various forms of Bright's disease. Some pathologists maintain that the small granular kidney is the result of an intertubular deposit. The author maintains that there is no proof of such deposit; while the red colour and the vascularity of the kidneys seen in an advanced stage afford proof that no such deposit exists. All the essential changes in this disease are intratubular. In the thirty-third volume of the *Transactions* the author first noted the fact, that in all the forms of chronic Bright's disease the muscular walls of the minute renal arteries are hypertrophied. He then supposed that this was the result of an effort to propel the blood onwards. It is now generally admitted that the minute arteries act as stopcocks; that they regulate the blood supply, but they have no propelling power. The explanation of the hypertrophy of the small renal arteries which is most in accordance with the facts is that, in proportion to the destruction of the renal gland cells, there is less demand for blood to be acted upon by the gland; the renal arteries consequently contract upon their contents so as to maintain the balance between the blood-supply and the diminished secretory action of the kidney. This continued overaction of the

* Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society, held December 10, 1867.

small arteries in antagonism to the heart results in hypertrophy of their muscular walls. In the advanced stages of some forms of chronic Bright's disease the walls of the arteries as well as those of the Malpighian capillaries assume a white and wax-like appearance—a result probably of infiltration of albuminous or fibrinous materials into the tissues. This appearance of degeneration is secondary, and not essential. It has long been known that the left ventricle of the heart is hypertrophied in nearly all cases of chronic Bright's disease. This is believed to result from the resistance offered by the small arteries throughout the body to the passage of blood contaminated with urinary excreta. The muscular walls of the arteries have been found hypertrophied in the brain, in the pia mater, and in the intestines of those who have died of chronic Bright's disease, and it is probable that this anatomical evidence of arterial resistance to the circulation in these cases will soon be much increased. Reference was then made to the experiments of Hales upon animals recently killed, as well as to those of Blake upon living animals, to prove the influence of the minute arteries upon the circulation. The sudden arrest of the circulation through the lungs by the admission of atmospheric air into the veins, and the impediment to the pulmonary circulation in cholera, are both referred to the same cause—namely, contraction of the small arteries upon their contents. Again, some of the phenomena of apnœa admit of complete explanation only by reference to the contraction of the small arteries. A dog was killed by a ligature on the trachea. The chest being opened, immediately the right heart was distended, the left nearly empty. The lungs were pale, nearly bloodless, and extremely collapsed. The minute pulmonary arteries must have arrested the mass of blood before it reached the capillaries. A comparison of the phenomena of apnœa with those of renal disease appears to warrant the conclusion that an impeded circulation, the result of arterial contraction, may occur under two different conditions:—1. When the respiratory changes in the lungs are impeded, or when the secretory action of a gland, such as the kidney, is impaired, the minute arteries of the lung or of the kidney, in obedience probably to a stimulus conveyed to them through the nerves from the capillaries, restrict and retard the blood-stream. The anæmia of the pulmonary capillaries in cases of acute apnœa, and the overgrowth of the muscular walls of the renal arteries in cases of chronic Bright's disease, are results of one and the same physiological principle. 2. The minute arteries in any part of the body may be excited to contract by their contents becoming abnormal, and therefore more or less noxious to the tissues. We have an illustration of this in the resistance which the systemic arteries offer to the passage of unaërated black blood, and of blood contaminated with urinary excreta. We have another illustration of it when certain foreign materials are either accidentally in man, or designedly in animals, introduced into the veins, and then arrest the flow of blood through the lungs. The late Dr. Alison and many other pathologists have taught that the minute blood-vessels have the power to antagonize the heart and to check the circulation. This power of resistance has been almost universally believed to reside in the capillaries, which have no contractile power; while the stopcock action of the small arteries, with

their contractile muscular walls, has been almost ignored by pathologists. One of the main objects of this communication has been to direct attention to this action of the small arteries in various pathological states of the system, and to adduce anatomical as well as physiological evidence of its reality and its powerful influence.

Art. 80.—*Peroxide of Hydrogen as a Remedy in Diabetes.*

By John Day, M.D.

(*The Lancet*, January 11.)

The case of diabetes related by Dr. Day had resisted all ordinary treatment for more than three years.

While pondering over the hopeless condition of his patient it occurred to Dr. Day that if he could oxidize the sugar that had been taken up in the general circulation, it would be an approach towards the natural mode of its elimination by the lungs. With this object in view, he gave half-drachm doses of ethereal solution of peroxide of hydrogen mixed in an ounce of distilled water, three times a day.

Dr. Day commenced the use of this new remedy on August the 10th, and, as the following extracts from his case book will show, with most gratifying results to the patient:—

Aug. 12th.—From 10 P.M. to 10 A.M., passed about five pints of urine. Previously, for many months, the quantity of urine passed during the night averaged five quarts.

13th.—Quantity of urine passed during the night, rather less than three pints and a half. Thirst not so urgent.

14th.—Quantity of urine passed during the night, two pints and a half. Urine strongly acid; specific gravity 1046. Thirst much less urgent.

16th.—Quantity of urine passed during the night, rather less than forty ounces. The patient very much improved in every respect. I give her own words:—"I have no thirst now; no more than I had in olden times. I feel that I am cured if it will only last."

17th.—Still improving. Quantity of urine passed during the night, thirty-six ounces; specific gravity 1040. Went to bed at ten, and only got up once during the night. Before taking the new medicine, had to get up every hour during the night for months past. Used to be so cold as to require bottles of hot water to spine, legs, and feet. Since taking new medicine has been quite warm and perspiring. No unnatural thirst. Had been taking an opium pill night and morning up to this date. Pills to be discontinued, and no other medicine used but ethereal solution of peroxide of hydrogen. No alteration has been made in the diet for a long time past.

The improvement continued till the 27th, on which day the following note was made—

27th.—Slept well. Quantity of urine passed during the night, twenty-four ounces; specific gravity 1040. Says she feels as well as ever she did—never felt better in her life.

On this case Dr. Day remarks, "Schönbein believes that peroxide of hydrogen is H O + antozone, and that the blood corpuscles possess in a very high degree the property of decomposing it, and of transforming its antozone into ozone, without in themselves undergoing any very

rapid change; and he further believes that ozone is the only condition in which oxygen possesses any active combining properties. Assuming these views to be correct, we should possess in ethereal solution of peroxide of hydrogen, which would be rapidly absorbed, a ready means of destroying by oxidation the sugar in the blood, and of also maintaining the animal heat, which in the treatment of diabetes is an important consideration. I may observe, that what is sold by Mr. Robbins as Dr. Richardson's ozonic ether is, in reality, a solution of peroxide of hydrogen in ether. This may be readily proved by adding a few drops of it to a weak solution of chromic acid: a beautiful blue colour will be the result, caused by the formation of perchromic acid. This preparation is in every respect similar to that which I have been using, and in the therapeutical effects of which I have now had some years' experience."

Art. 81.—*On Excess of Urea in the Urine as a Guide to the Diagnosis and Treatment of certain forms of Dyspepsia and Nervousness.**

By Henry William Fuller, M.D. Cantab., F.R.C.P.,
Physician to St. George's Hospital.

(*British Medical Journal*, December 7.)

Dr. Fuller began by stating that, in the year 1864, his attention was arrested by the existence of a great excess of urea in the urine of a patient whom he was treating for dyspepsia, accompanied by strongly-marked nervous or hypochondriacal symptoms. The amount of urea in a given bulk of the urine was so great that, on the addition of nitric acid, crystals of nitrate of urea began to form in about twenty minutes, and ultimately filled the interior of the test-tube. This condition of the urine has never been described as a feature either of dyspepsia or of nervousness; and as from its persistency in the case under observation Dr. Fuller was inclined to regard it as an essential feature of the malady, he resolved in future to search for urea in the urine of every patient who presented a similar train of symptoms. The result has been that he has discovered an excess of urea in twenty-seven patients, twenty-six of whom were males, varying in age from twenty-three to fifty-four.

After describing the general symptoms by which this condition of the urine was accompanied, Dr. Fuller gave the details of two well marked cases; and stated that since his attention had been directed to the subject he has seldom been disappointed in his expectation of finding an excess of urea when the symptoms have led him to suspect its existence. Without exception the patients have been tolerably healthy in appearance, and often somewhat florid, though in some instances they have lost flesh slightly—indeed, their aspect has been so little indicative of disease, and their complaint of suffering has been so constant and so

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* Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society, November 26.

urgent, that any practitioner who did not examine the urine for urea could scarcely fail to regard them as simply hypochondriacal. Their complaint has been of flatulence and acidity, extreme languor, restlessness at night, and distressing nervousness. Even a moderate amount of exertion has induced fatigue, so that they have abstained almost wholly from exercise. This last Dr. Fuller regarded as an important feature of the complaint, inasmuch as it bears upon the point which was next discussed—namely, the source of the excess of urea. He maintained, by reference to the history of the cases and to the marked indisposition to and incapacity for exertion, whether mental or bodily, manifested by sufferers from this complaint, that the urea is not formed, solely at least, during the destructive processes of assimilation as a consequence of the wear and tear of the tissues—the source whence urea is commonly supposed to be derived—but is due to the production of urea from the elements of the food during the primary process of assimilation, probably as a consequence of perverted nervous action.

In conclusion, Dr. Fuller mentioned several circumstances which induced him to believe that this affection is nearly allied to gout.

(F) CONCERNING THE CUTANEOUS SYSTEM.

ART. 82.—*On Chromic Acid in Cutaneous Diseases.*

By H. S. PURDON, M.D., L.R.C.P. Edin., Physician Belfast Dispensary for Diseases of the Skin, Assistant-Physician Belfast Charitable Infirmary, &c.

(*Journal of Cutaneous Medicine*, April, 1868.)

The class of diseases in which this remedy is of most service are the *dermatophyta*. In tinea circinata Dr. Purdon has used it largely in solution, usually one drachm of the acid to an ounce of water, one application of which is sufficient for curing the complaint, as in the following case, selected from several others similarly treated.

J. A., æt. fourteen, admitted at the Belfast Dispensary for Diseases of the Skin, October 23rd, 1867, suffering from a large patch of tinea circinata on the right shoulder. Applied the solution of chromic acid, and on the next dispensary-day, October 26th, the disease was completely removed, a little redness only remaining. Nor has there been any return of it.

In other vegetable parasitic diseases, this acid will be found equally useful, as in tinea tonsurans, sykosis, &c.

In condylomata, chromic acid has been largely employed by Continental surgeons, and after giving it a fair trial, and contrasting it with other caustics, as nitric acid, terchloride of antimony, &c., Dr. Purdon prefers it as a *more rapid* and less painful remedy. The solution he uses is of the strength of two drachms to the ounce of water.

In warts and corns it is also an excellent application; of course the strength of the solution being increased or decreased according to circumstances. In one case of chronic eczema, accompanied by much infiltration of the subcutaneous tissue, in which numerous remedies, both constitutional and local, had been fairly tried but without the slightest

benefit, a solution of chromic acid, a drachm to the ounce, applied twice a week, resulted in complete cure.

In four cases of lupus, admitted at the Belfast Dispensary for Diseases of the Skin, chromic acid was the remedy employed, either in substance or in solution (two drachms to the ounce); Dr. Purdon prefers the latter, as it is more easily managed.

Art. 83.—*On the Treatment of Acne Rosacea.*

By Dr. C. B. Mesterton.

(*Upsala Läkareförenings Förhandlingar*, Bd. ii.; *Schmidt's Jahrbücher*, No. 2, 1868.)

Dr. Mesterton mentions in the first place that acne rosacea is distinguished from the remaining forms of acne, both by its situation (nose, chin, cheeks, forehead seldom) and by the nature of the morbid processes. Acne mentagra and acne disseminata, according to Mesterton, consist in an inflammation of the hair sacs and the sebaceous follicles of the skin, whilst acne rosacea, on the other hand, is due to pathological changes in the vessels and tissues of the whole of the integument at the affected spot, although eruptions of isolated pimples frequently occur here. The principal causes of this skin affection are, according to Mesterton, disturbances in menstruation and excessive consumption of alcoholic drinks. He does not attribute much importance to other things that have generally been accepted as causes of acne rosacea, chief among these being the immoderate internal and external use of cold water.

In the treatment of acne rosacea, Dr. Mesterton, besides attending to any existing constitutional affection, attributes importance to regulating the diet, preventing congestion in the head, avoiding a position in front of the fire, and guarding the face from wind and cold air. The local treatment is of the greatest importance. Dr. Mesterton believes that with the exception of those medicines that are of use against the general affection, internal remedies are not to be relied on; sulphur and mercury, when given internally for the vascular development and the hypertrophy of the skin, are altogether ineffectual, although these agents do good service when administered in cases of seborrhœa and acne eruption. Very good results have been obtained by Mesterton from scarification. In Hebra's practice extensive swellings and vascular enlargements are treated by cutting along the length of the large veins by a cataract knife, or a fine bistoury. Mesterton has not observed any important results to follow this treatment even after deep scarification. The following is a description of his own method.

When seborrhœa, comedones, or acne pustules exist, they are first bathed with spiritus saponas alkalinus (sap. virides ʒiv. spir. vini ʒvj, tinct. lavandulæ ʒij), and in the evening sulphur ointment is rubbed in, and the comedones squeezed out. After removal of the seborrhœa and comedones, or when this preparatory treatment is not necessitated, Mesterton at once makes incisions with an ordinary bleeding lancet, which in proportion to the swelling and hyperplasia of the skin are 2‴,

1‴, or even less in depth, but never deeper than 2‴; they are carried in such a direction as to lay open any acne efflorescences that may exist. The incisions are made close together and always crossed. The subsequent bleeding is immediately stayed by cold water. On the following day the scarified region is thickly covered over with collodion, which coating is kept up until a few days before the next scarification, by the addition of fresh layers. This treatment is persevered in until the disease is cured, but towards the end with longer intervals. A relapse occasionally takes place, when the exciting cause of the disease cannot be destroyed, but this may be removed by a few scarifications, if the patient apply early for treatment. When acne rosacea has lasted but for a short time and has not passed beyond the first stage, Mesterton has found that it is readily cured without leaving any perceptible scars. When the disease is in the second stage, and has already existed for many years, and the ordinary acne eruption exists, the scarifications must be repeated every two, three, or four months for a long time. These scarifications, Mesterton states, are certainly painful, but not to the extent to be intolerable for weak, nervous women: the bleeding is readily stayed with cold water, and when the skin is restored to its healthy condition, the scars are almost invisible, and in course of time entirely disappear.

Art. 84.—*On the Secretions of the Skin in Insanity.*

By M. Berthier.

(*Journal of Mental Science*, April, 1868.)

M. Berthier, in an article on the "Secretions of the Skin in Insanity,' arrives at the following conclusions:—"Both at Bourg and at the Bicêtre," he says, "I have often ascertained the condition of the skin of the insane, choosing the morning for the observation, so as to avoid the disturbing influence of occupation during the day. The results of this investigation, which were invariably identical, may be summed up thus, according to the nature of the vesaniæ. In insanity, not chronic, and of the exalted, expansive form, decrease more or less marked of the heat in the extremities; elevation to a corresponding degree at the head and in the axillæ; hands dry on the dorsal aspect; humid and sometimes wet, frequently viscid on the palmar aspect. In insanity, not chronic, and of the depressed form, temperature low, even very cold, at the inferior extremities; elevated at the head and under the axillæ; hands on the dorsal surface very dry, or the palmar surface dry or glowing. In the chronic condition, the transformation of the skin, which becomes thin, assumes a parched character, and sometimes is affected by *erythema pellagrosa*, gradually restores the symptoms to a kind of uniformity. There is less heat at the head and under the axillæ, with less coldness of the extremities; the skin being generally arid, dry, pulverulent, and wrinkled." "The play of the nervous currents," he continues, "explains these variations. In mental derangement the passions are reflected in a more or less *bizarre*, disordered and excessive manner. But as is justly observed by Ch. L. Dumas, the celebrated

professor of physiology at Montpellier, some passions, such as anger, for instance, direct movement from within to the exterior; while others, such as fear, drive it back from the exterior to the interior, and thus by deranging the circulation vitiate the fluids, the blood, bile, saliva, perspiration, &c. H. Davy has also proved, by numerous experiments, that, under the influence of intense moral excitement, the temperature of the body may fall as low as 27 degrees (81° Fahr.). It is evident that both phenomena, eccentric and concentric, will produce the same consequences among the insane."

Art. 85.—*A Clinical Lecture on Unilateral Herpes.*

By Jonathan Hutchinson, F.R.C.S.

(*London Hospital Reports*, vol. iii. ; and *British and Foreign Med.-Chir. Review*, January, 1868.)

In introducing the subject of herpes zoster, or common shingles, Mr. Hutchinson remarks that this disease is not a skin affection in the correct sense of the word, but rather a symptom, displayed by the skin, of irritation of the nerve. In confirmation of this view, he adduces some cases in which the eruption followed the course of cutaneous nerves. Mr. Hutchinson also endorses the opinion of Bateman, that shingles commonly follows the regular course of fever, in its eruption, maturation, and decline, within a limited period, like the eruptive fevers. It appears also that the disease very rarely occurs twice in the same person, that it is never contagious, and that it very seldom exists on both sides at once. The dorsal nerves, and especially the third or fourth dorsal, are much more frequently affected than any others, the forearm and the legs are rarely affected, but the two sides are liable to the disease almost in an equal proportion, and all ages suffer nearly alike, except early infancy. Mr. Hutchinson's paper is illustrated by a table containing the records of sixty-three cases of herpes zoster.

Art. 86.—*Mercurial Collodion for Syphilitic Maculæ.*

By M. Clerc.

(*Wiener Med. Wochenschrift*, 1867, No. 10 ; and *New York Medical Journal*, January.)

This case is one reported in the Presse Médicale Belge by M. Clerc. It occurred in a woman whose face and neck were covered with dirty yellow maculæ, which disappeared but slightly under pressure; alkaline, corrosive sublimate, and sea baths had been used without benefit. The collodion (0·5 grammes of corrosive sublimate to 15 grammes of collodion) was applied with a camel's hair brush to each spot, and in about eight days they had entirely disappeared. The only inconvenience of the application was intense itching.

Art. 87.—*On the Diagnosis and Treatment of the so-called Psoriasis Syphilitica.*

By Dr. M'Call Anderson.

(*Medical Press and Circular*, January 1.)

The following table serves to illustrate the salient points of difference between syphilitic and non-syphilitic psoriasis. The former disease is very often mistaken for the latter, and *vice versâ*—the diagnosis is sometimes extremely difficult:—

Syphilitic Psoriasis.	*Non-syphilitic Psoriasis.*
1. Eruption not usually very extensive.	1. Eruption sometimes covers the greater portion of the skin.
2. Usually occurs as a second stage of some other form of syphilitic eruption.	2. The patches assume the characters of psoriasis from the very first.
3. Some of the patches may be moist, or covered with crusts, or even in a state of ulceration.	3. A dry eruption throughout.
4. Patches usually small, and in the shape of round spots or patches, or circles, or segments of circles.	4. Patches often small, and circular, but frequently very large and irregular.
5. Eruption not usually on the elbows and knees; more on the inner than the outer aspect of limbs. When limited to soles or palms, always syphilitic.	5. Eruption on any part of the body, but *almost* invariably on the elbows or knees also.
6. Eruption in the chronic stage usually *distinctly* coppery in tint.	6. Patches of a dusky-red, or *light* coppery tint.
7. Scales thin; not so imbricated; often greyish.	7. Scales thick, imbricated, white, and silvery.
8. Rarely itchy.	8. Sometimes not itchy, occasionally intolerably itchy; generally slightly so, especially when new patches appearing.
9. May last months, or even a year or more, when no treatment employed.	9. Often of five, ten, fifteen, twenty, or thirty years' duration, or even lasts almost a whole lifetime.
10. Almost always commences after puberty, and usually after twenty.	10. Many cases commence before puberty.
11. Can often be traced to a hard chancre.	11. Can often be traced to hereditary taint.
12. Patient *may* be cachectic, and concomitant symptoms detected; *e.g.*, roseola syphilitica, lichen syphiliticus, condylomata, sore-throat, alopecia, &c.	12. Patient generally in comparatively good health, with the exception of the eruption.
13. Removed almost invariably by mercury.	13. In the majority of cases removable partially or entirely by arsenic or tar.
14. A relapse not usual after *all trace* of the first eruption has *completely* disappeared.	14. Relapses are the rule, and are often very numerous.

It must always be borne in mind that there is no reason why a patient labouring under syphilis, may not at the same time be affected with non-syphilitic psoriasis. But should such cases be observed, and they are not very uncommon, a remembrance of the possibility of such an occurrence should prevent error, especially as it will usually be found that the date of appearance of the non-syphilitic psoriasis does not correspond with the date of appearance of the manifestations of syphilis.

In the general treatment of psoriasis syphilitica, if the constitution is bad, the general health must be carefully attended to, cod-liver oil, tonics, such as cinchona and iron, and iodide of potassium,* in full doses, being especially useful. If, on the other hand, the constitution is good, and there is no debility apart from that which is the direct result of the poison in the blood, the patient may safely be put fully under the influence of mercury, the gums being kept *gently* touched for two or three weeks if necessary.

There seems no reason to doubt, however, that in the treatment of the cutaneous manifestations of syphilis, the constitutional is too universally employed to the exclusion of local treatment, which is often sufficient of itself to effect their removal. It is unnecessary to insist on the great value, in this respect, of the mercurial vapour-bath, this method of treatment having been so prominently brought under the notice of the profession by Mr. Henry Lee. These baths may be taken every second day, and they possess this advantage over constitutional treatment, that they act directly upon the affected parts, and do not, except in rare cases, give rise to salivation, even when continued for a considerable time. They may, accordingly, be used with advantage in combination with constitutional treatment of a tonic and strengthening character, even in debilitated and strumous subjects.

A more valuable method of treatment even than the mercurial vapour-bath for the removal of the eruption under consideration is an ointment containing calomel, as in the following formula:—

℞ Calomelanos, ʒj.
Glycerini amyli, ʒij.
Unguenti Rumicis, ʒv. M.

Let a little of this be rubbed firmly into the patches night and morning. One of the mercurial ointments of the British Pharmacopœia may be used instead of the above, and often with advantage, as the unguentum hydrargyri ammonati, nitratis, iodidi rubri, &c. When these ointments are used, the patient should, in every case, be warned of the possibility of the absorption of the mercurial to such an extent as to produce salivation, particularly if the eruption is extensive, and told to show himself at once should there be any decided indication that the gums are touched.

While anti-syphilitic treatment is being carried out, the patient

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* E.G. ℞ Ferri et ammoniæ citratis, ʒiij.
Potassi iodidi, ʒj.
Syrupi zingiberis, ʒij.
Infusi cascarillæ ad ʒxxiv. M.
Sig. A tablespoonful in a wineglassful of water thrice daily.

should, as a rule, avoid stimulants entirely, his diet beinn simple but nourishing, and after the eruption is completely gone, a course of tonics may be of great service, and a change of air when it can be accomplished.

Art. 88.—*On Ichthyosis.*

By M. Hardy.

(*Gazette des Hôpitaux*, No. 42, 1868.)

The following are some remarks made by M. Hardy at the Hôpital Saint-Louis:

"Ichthyosis is not, properly speaking, a disease, but rather a faulty disposition habitually congenital, and very frequently hereditary: when once developed it accompanies the individual during his existence, without disturbing his general health or putting his life in danger.

"Ichthyosis, ranged by M. Hardy with deformities of the epidermis, is characterized by a rough and dry condition of the skin; this sign is permanent; there are no constitutional symptoms."

Many varieties of ichthyosis have been distinguished, according to the aspect, seat, and coloration of the affection.

(*a.*) Varieties according to the aspect.

1. Serpentine ichthyosis is characterized by wrinkles disposed in the form of a lozenge; the skin is somewhat thickened and the seat of a slight desquamation, which is continuous but unattended by wrinkles; this is the most benign form of ichthyosis. The name given to it is owing to the resemblance which exists between this condition of the skin and the belly of some ophidians.

2. Pearly ichthyosis—*l'ichtyose nacrée*—presents larger and more adherent scales, which are imbricated and sometimes fall off, resembling very much the scales of a fish; whence the name of *peau de carpe*.

3. Horny ichthyosis, very common in its early stage, is formed by the prominence of the papillæ or even of the hair-follicles, which gives to the skin the appearance of a grater; its habitual seat is the arms and thighs. In a more advanced stage the prominences run together and form plates, which causes the skin to resemble that of the rhinoceros. Sometimes the enlarged papillæ terminate in a point, which gives to the skin the aspect of the surface of a porcupine.

(*b.*) Varieties according to the colour.

The divisions of ichthyosis based upon its colour, which may be white, grey, or black, are of little importance, since this constitutes mere shadowings.

(*c.*) Varieties according to the seat.

Ichthyosis may be general or partial.

1. In general ichthyosis, the face, armpits, palms of the hands, the soles of the feet, and the genitals are usually unaffected. The attempts that have been made to explain this exception are unsatisfactory; thus it has been stated that it was owing to the fact of these parts of the body being more frequently washed; and again, that the epidermis in these regions is thinner. It is necessary to state that patients affected

with ichthyosis do not perspire except at those parts of the integument that are free from all morbid manifestations.

2. Local ichthyosis is an important affection to study, since it may give rise to difficulties in diagnosis. M. Hardy has observed one case where it was localized in the cheeks, another in the eyebrows, and a third in the knees and elbows. A case has been described by Alibert in which the ichthyosis was limited to the abdominal wall. M. Hardy also recollects one patient who was affected in the palms and soles by ichthyosis which had been cracked by the movements of these parts and was mistaken by several practitioners for psoriasis.

The prognosis of ichthyosis is not serious At certain periods of the year a moulting occurs, and this is followed by a new formation of the scales; the patients change their skin like serpents. The deformity always persists and does not exempt the patient from other affections, particularly from eczema which has a tendency to take the chronic form.

General ichthyosis is diagnosed from psoriasis by the constant presence in the latter of points of skin entirely free from eruption; the scales are imbricated, and form a thick layer which is only partially removed by scratching; they rest on a red base, are disposed in layers, and are accompanied by itching; their appearance dates from a relatively recent period, which the patient is enabled to state. These characters are absent in ichthyosis.

Partial ichthyosis cannot be diagnosed without difficulty from lichen, pityriasis, and psoriasis, particularly when it is limited to the brows, cheeks, or hands. The diagnosis must then be based upon the direction and the perfect symmetry of ichthyosis and the absence of itching. These three characters, the second one particularly, have been of service to M. Hardy in assisting him to establish a precise diagnosis.

Etiology. This deformity is generally apparent at the time of birth or it does not manifest itself clearly until some months after. Trustworthy patients will sometimes assert that they did not perceive the affection before the age of seven or eight years. It is necessary, however, to be cautious concerning these statements, and to admit as more probable that the ichthyosis was slight at first and did not attract the attention of the patient before it had attained a more advanced stage of its development.

The predominant and most influential cause is inheritance. Sometimes this is absolute, that is to say, all the members of a family are affected; in other instances there are but one or two.

The treatment is exclusively palliative. Ichthyosis is incurable, it lives and dies with the patient. The surgeon must content himself with maintaining the suppleness and the properties of the skin by means of oils, fatty bodies, saponaceous lotions, and unctuous baths. Baths should be particularly recommended at the time of shedding of the scales.

The mineral waters are not more applicable to ichthyosis than to other deformities of the skin. The amelioration given is not permanent, and the scales reappear as soon as the use of the baths has been suspended.

Art. 89.—*Ointment for Prurigo.*

By Dr. Charvet.

(*Bulletin Général de Thérapeutique*, Aug. 30, 1867; *Edinburgh Medical Journal*, January, 1868.)

Dr. Charvet has found the following a nearly infallible cure for prurigo, after an experience of twenty years:—

Axunge, simple or camphorated .	60 parts	Mix.
Citrine ointment	3 ,,	

A small quantity of this should be spread in a thin layer over the affected surface, and it gives almost instantaneous relief. The dilution of the citrine ointment in this preparation prevents the inconvenient and permanent staining of linen which is otherwise caused.

Art. 90.—*On the Treatment of Eczema.*

By Dr. F. Hugenberger.

(*Präg. Vierteljahrschrift;* and *Edinburgh Medical Journal*, April.)

The author states that this class of diseases is, as a rule, difficult to treat, that the use of arsenic internally is of no avail, and that remedies applied locally are frequently not well borne by the patient. What Dr. H. recommends for external application is an ointment composed of one part of diachylon plaster, and two parts of oil, or cod-liver oil, both of which frequently afford great relief, especially in the early stages. Warm bran baths, or baths containing a little of some alkali in solution, may be used, but with no greater advantage than the green soap, with flowers of zinc and white precipitate; neither of which methods of treatment are to be considered as effectual in preventing a relapse. To allay the itching, he used with advantage the local application of vinegar, and dusting with starch powder.

SECT. III.—FORENSIC MEDICINE.

Art. 91.—*On the Value of Sub-Pleural Ecchymosis considered as a Sign of Death from Suffocation.*

By Professor Ambroise Tardieu.

(*Annales d'Hygiène Publique*, January, 1868.)

Ecchymosis beneath the pleura, pericardium, and pericranium constitute anatomical lesions that are really characteristic of death from suffocation, and are so much the more important from the fact that they may exist without the least trace of violence to the exterior. The value of this sign has been questioned, but Dr. Tardieu is convinced that it is very great, and endeavours in his memoir to put it beyond the reach of attack.

To the first objection that sub-serous ecchymoses are not met with constantly in all cases of death from suffocation, M. Tardieu makes the answer that this is a question of observation and experience, and that the cases in which this sign was stated to have been absent are very exceptional, and cannot weaken the hundreds of positive facts in which the presence of ecchymosis has been proved by M. Tardieu himself and by other authorities.

Another objection to the value of sub-serous ecchymosis as a sign of death from suffocation, is the fact that ecchymoses may be formed under the pleura and pericardium under other conditions, as in the course of certain diseases, after injuries, or in the infant under certain particular circumstances. Professor Tardieu shows that there are sure means of preventing the ecchymosis, in all cases of this kind, from being confounded with those produced by suffocation, and that error and confusion in the diagnosis have too been readily accepted as possible, because the lesions have not been sufficiently observed and reflected on.

The spontaneous affections in which sub-pleural and sub-pericardiac ecchymoses have been met with are hæmorrhagic affections generally, and purpura particularly, certain severe forms of eruptive fevers, and pestilential diseases, notably typhus and cholera. But the ecchymoses presented in these instances ought not to be confounded with the ecchymotic spots produced by suffocation. The latter are much smaller, strictly circumscribed, very regularly rounded, and formed by a small drop of coagulated blood. The former, on the contrary, are always irregular and larger, diffuse, constantly fluid, and generally of a violet and livid tint; the conditions under which they are formed, their number, their dispersion through all the organs, and the hæmorrhages accompanying them, leave no room for a mistake.

Ecchymoses are sometimes found disseminated under the pleuræ and other serous membranes, after poisoning by arsenic, phosphorus, mercury, and digitalis. Here the dissemination of the spots, their multiple seat, the coexistence of abdominal lesions, the frequent presence of infiltrations of blood in the gastro-intestinal mucous membrane, and hæmorrhagic evacuations, furnish sufficient characters for distinction.

The neurosthenic poisons, strychnine and prussic acid, have been represented as capable of producing extravasations of blood under serous membranes, or in the circulatory and respiratory organs. Experiments on animals killed by strychnine, and observations made of individuals poisoned by strychnine and prussic acid, have proved to Dr. Tardieu that in these cases the small and sharply defined spots of ecchymosis found after death from suffocation are never present, but that there is in consequence of the rapidity of death, and of the persistent fluidity of the blood, a state of irregular and partial congestion, marked in many instances by effusions of blood, and the formation of apoplectic deposits on the surfaces of the heart and lungs.

The convulsive affections, as eclampsia and epilepsy, may bring about in some cases the formation of ecchymosis in various parts of the body, chiefly the face, the base of the neck, and the front of the chest, but very rarely in internal organs, and on the surfaces of the heart and lungs.

Dr. Tardieu has never observed in individuals who have died from hanging any circumscribed effusions or ecchymotic spots on the surface

of the lungs, or in the membranes enclosing the heart. According to his experience, in whatever manner the position of the suspending cord was varied, no other appearances have been observed in the lungs, save a general engorgement of blood and an occasional circumscribed emphysema. He states that it is decidedly impossible for him to admit that punctated ecchymoses under the pericranium, pericardium, and pleura, are found after hanging as well as after suffocation.

Very considerable differences distinguish submersion from suffocation, and the state of the lungs in drowned individuals is totally opposite to that presented in individuals who have been choked. In the former there is considerable congestion, which occupies the whole extent of organs. The surfaces of the organs are sometimes mottled with spots, formed of effusions of blood, but these do not resemble the rounded and circumscribed ecchymotic spots characteristic of death by suffocation.

Severe injuries from crushing, or precipitation from a lofty place, as for instance, fracture of the ribs, rupture of the diaphragm, and lesion of the spinal cord, are often accompanied by the formation of ecchymoses under the pleura and pericardium. The great disturbance caused by these injuries in the mechanical phenomena of respiration, and in the inspiratory movements, causes useless movement and a kind of struggle on the part of the injured person, who cannot breathe, and finds himself in a condition altogether analogous to that of one dying from suffocation. There is, however, no obstacle to the entrance of air into the respiratory passages, but rather an inertia of the agents of respiration. The difficulty in diagnosis in cases of this kind is not one likely to embarrass an expert, since the numerous lesions produced by crushing or a fall of the body occupy the first place, and would not allow him, however great may be the similitude of the sub-pleural ecchymotic spots to those existing in cases of the other kind, to think of death from suffocation.

Professor Tardieu states in conclusion, that it is his firm and absolute conviction, that, with a slight reserve mentioned in his memoir, the presence of the changes described above, and principally of extravasations disseminated under the pleura and hairy scalp, in whatever degree and however small in number these may exist, is sufficient to demonstrate positively that suffocation is the actual cause of death. These lesions may be often associated, though not constantly, with ecchymotic spots under the pericardium, the rupture of some superficial pulmonary vesicles, and the presence of a fine, white, or somewhat rosy froth in the aërial passages; various external marks of violence may also be presented, such as flattening of the nose and lips, excoriation of the face, depression or laceration of the cells of the chest and belly.

Art. 92.—*On Resuscitation of the Drowned.*

By M. Marchant.

(*The Lancet*, April 4.)

The Marshall Hall and Silvester methods have rendered signal services. Here is another, lately proposed by M. Marchant (of Charenton),

in the *Archives de Médecine*, especially in view of asphyxia after immersion. The author thinks that the best means of success is to pay little attention to circulation, but to bestow much on respiration, by which hæmatosis of the blood is restored. Pulmonary insufflation is to be performed in the following manner:—A tube of any kind, even of a tobacco-pipe, well washed, should be introduced into a nostril, and both nostrils be pressed against the tube. The mouth should be stopped by the operator's hand, and he should then blow with sufficient force into the tube to drive air into the lungs. The chest then is seen to rise. By removing the tube, and the hand from the mouth, expiration will spontaneously take place, or it may be aided by the open hand applied to the base of the thorax. This manœuvre being repeated ten or twelve times, the heart is felt to beat, if the patient had at the beginning of the operation any vitality in him.

Art. 93.—*On the Chemical Antidotes of Phosphorus.*

By MM. Eulenberg and Landois.

(*Aerztliches Literaturblatt*, No. 12, 1868.)

The authors of this contribution, after stating their researches on acute phosphorus poisoning, express themselves concerning the requisite antidotes as follows:—"We overlook the very short list of substances which have been allotted as antidotes in cases of acute poisoning by phosphorus. As agents of this kind, basic substances stand before all others that have been applied so frequently, such as burnt magnesia, lime-water, and hydride of iron in water. It is evident that these substances when introduced into the stomach can do good only by neutralizing the acids ($P O_3$ $P O_5$) produced by oxidation of the phosphorus, which are formed there, and by lessening their injurious action. So long as it is assumed that the formed acid products of oxidation may even in a diluted condition readily bring about symptoms of corrosion through their solvent action on the mucous membrane of the stomach, the use of the above-mentioned preparations, particularly that of burnt magnesia, would not seem to be unsuitable. But we cannot concede any influence to antidotes of this class, as we consider phosphorus vapour, and not the oxydised products of phosphorus, to be the special toxic agent; the appearances also of irritation of the gastric and intestinal mucous membranes are by no means constant, and are not always of a very serious nature. Bamberger has zealously recommended the use of the sulphate and carbonate of copper as antidotes in cases of phosphorus poisoning, and evidently not because of the emetic action for which the sulphate of copper is so frequently administered, but rather on account of the reducing action which is exercised by salts of copper on phosphorus, even when in the form of vapour. The researches undertaken by Eulenberg and Landois with the carbonate of copper, teach that by an immediate or early use of this salt the vaporization and diffusion of phosphorus are arrested, or at least very much restricted." In conclusion, these authors state, "that they would direct

particular attention to a substance which has never previously been considered therapeutically, but may perhaps, as an antidote, especially in cases of poisoning by phosphorus, play for the future an important part. This compound is the binoxide of hydrogen, HO_2, which possesses a remarkable tendency to oxidize other substances by giving off one equivalent of oxygen. It is miscible with water under all conditions, and is not, even in large quantities, injurious to the organism." Eulenberg and Landois have convinced themselves that the binoxide of hydrogen, produced by decomposing peroxide of barium with acids, acts on phosphorus without the body as a rapid means of oxidation.

Art. 94.—*On the Diagnosis of Simulated Epilepsy.*

By Dr. Auguste Voisin.

(*Annales d'Hygiène Publique*, April, 1868.)

1. Attacks of epilepsy and simple vertigo produce disturbances of the arterial circulation, which can be recognised by means of the sphygmograph, and are denoted by well-marked curves with lines ascending to a great height, and a distinct dicrotism; these last from half an hour to several hours.

2. These sphygmographic traces could not be obtained from Dr. Voisin or from some of his patients after gesticulations, violent efforts, and rapid running.

3. The state of the pulse in a simulating epileptic proved to Dr. Voisin the complete absence of resemblances between the sphygmographic tracings taken under these circumstances and those taken during a true epileptic attack.

4. In a case of doubtful epilepsy, it will suffice to subject the individual to a regular observation, and to repeat this several hours after the supposed attack, in order to judge of the question of simulation.

Art. 95.—*Snake-Poison and its Antidote.*

By Charles J. Smith, Inspector-General of Hospitals, Madras Army, retired.

(*British Medical Journal*, February 22.)

As far back as 1833 or 1834, Mr. Smith published in one of the Calcutta journals a case of snake-poison, and an account of some experiments on dogs that satisfied him that liquor ammoniæ, if given in sufficiently large and frequently repeated doses, is a perfect antidote. Mr. Smith was in medical charge of a troop of Horse Artillery at Bangalore, when a snake-charmer was brought to the hospital, who had been bitten, about half an hour previously, on the back of his right hand, by a large cobra. When admitted he was insensible, and had very much the appearance of a man under the influence of opium. Mr. Smith at once placed a tourniquet on his arm, and thus cut off in some measure the

further supply of poison from the wound to the system; applied nitric acid freely to the wound; and bled him in that arm, with the view of removing a portion of the poison remaining in the limb. At the same time he gave, every ten or fifteen minutes, liquor ammoniæ in half-drachm doses, diluted with as small a quantity of water as enabled him to swallow it. A cold douche was applied to the head, and a blister to the neck; and, as his pulse was failing, Mr. Smith kept up artificial respiration for some time by the only means at his disposal (blowing into the mouth and nostrils). After about four hours' hard work, the man's life was safe.

Shortly after this, Mr. Smith tried the effect of liquor ammoniæ on dogs. Having procured some fresh cobras, he had the dogs held, and the mouth of a snake fairly applied to the bare part inside the thigh. The dog was then left till the poison took effect. When he administered the liquor ammoniæ, in every instance the dog was saved; while those to whom the antidote was not given died.

Mr. Smith considers that liquor ammoniæ is a direct antidote, and does not act merely as a stimulant, as it is generally efficacious in cases of poisoning in the dissecting-room.

Art. 96.—*Experimental Contributions to the Toxicology of Rattlesnake Venom.*

By S. Weir Mitchell, M.D., Member of the National Academy of Sciences.

(*New York Medical Journal*, January.)

The conclusions in this highly interesting paper may be thus briefly stated:—

One-fourth of a drop of venom is usually fatal to pigeons under the age of four months. One-eighth of a drop is frequently a fatal dose.

Rattlesnake venom is absolutely harmless when swallowed. Owing to two causes.

First, because it is incapable of passing through the mucous surfaces.

Second, because it undergoes some change during digestion, which allows it to enter the blood as a harmless substance, or to escape from the canal in an equally innocent form.

Twenty-four hours after the venom has been swallowed, the dejecta of this period and the contents of the bowels contain no poison. The rectum (cloac) of the pigeon does not absorb the venom, and it causes no injury when placed on the conjunctiva of animals.

The venom passes through the membranes of the brain, and more swiftly through the peritoneum and the pericardium. When the venom passes through the peritoneum it so affects the walls of the capillaries as to allow of their rupture, and of the consequent escape of blood. The same phenomena appear on the bare surface of muscles thus poisoned. This influence, together with the defect of coagulability of

the poisoned blood, accounts for the excessive hæmorrhage about the fang wounds. The blood-globules are physically unaltered in venom poisoning.

The rattlesnake is not susceptible of being injured by the venom of its own species.

The sulphites or hyposulphites of soda or lime have no antidotal power.

Carbolic acid sometimes delays the fatal result, and usually lessens the local hæmorrhage.

These effects are due to no influence of the acid on the venom, but rather to a direct effect of the excess of acid upon the local circulation of the envenomed part.

Carbolic acid has no value as a true antidote, and when given internally does not affect the ordinary fatal issue.

Art. 97.—*Case of Poisoning by the external Use of Belladonna.*

By R. Gosset Brown, M.D.

(*London Hospital Reports*, vol. iii., and *British and Foreign Medico-Chir. Review*, January, 1868.)

In this case an embrocation containing two drachms of liquor belladonnæ had been employed externally for the relief of hooping-cough, and its use was followed by symptoms of poisoning, including the existence of delusions. On the discontinuance of the use of the belladonna, the delusions disappeared and the hooping-cough in course of time disappeared likewise.

Art. 98.—*Case of Poisoning by the external Use of Belladonna.*

Under the care of Dr. Fraser.

(*London Hospital Reports*, vol. iii., and *British and Foreign Medico-Chir., Review*, January, 1868.

This case was somewhat similar to the last, but the fact of poisoning by belladonna was only suspected by the symptoms, although it was afterwards fully proved by the production of a bottle labelled as containing extract of belladonna mixed with water, and to be used as a lotion. The patient was a servant, who had applied the lotion to relieve a pain in the breast, and who afterwards exhibited the constitutional symptoms of poisoning. It was suspected that she might have swallowed some of the fluid, but this she strenuously denied.

Art. 99.—*Poisoning from the internal Use of Iodide of Potassium.*

By Dr. Mecklenburg.

(*Schmidt's Jahrbücher*, 1867, No. 5; and *New York Med. Journal*, November, 1867.)

Dr. Mecklenburg has observed symptoms of poisoning after the internal use of moderate doses of iodide of potassium in a man twenty-eight years of age, suffering under gastralgia and swelling of the inguinal glands, but who had never had syphilis. Soon after the first dose, the patient was attacked with sharp pains in the eyes, excessive secretion of tears, and burning of the nose and mouth. A moderate drink of milk was followed by active vomiting and salivation. The countenance was deeply reddened, the upper eyelids swollen, particularly their tarsal borders, and of a bluish red. The patient was restless, threw himself about, complained of burning in the forehead, eyes, nose, mouth, and throat; the burning feeling, though somewhat moderated, reached to the xiphoid cartilage. The extremities were cool, otherwise the skin was normal and perspiring. The pulse was small, weak, and moderately frequent. The tongue was normal. The mucous membrane of the mouth, throat, and eyes appeared reddened. There was frequent sneezing, with free watery secretion from the nose, and inclination to cough. The vomiting soon ceased; exploration of the chest and abdomen gave nothing abnormal.

As the bowels had not been moved for twenty-four hours, Dr. M. prescribed an enema of cold water, with a decoction of starch as a drink. Improvement soon took place, and in twelve hours the symptoms had disappeared, with the exception of the swelling of the upper eyelids. After some days a second dose of the iodide, of only five grains, was followed by the same phenomena, though in a markedly less degree. The iodide had no effect upon the swollen glands of the groin.

Art. 100.—*Two Cases of Poisoning by Alcohol.*

(*The Lancet*, May 9.)

Fatal cases of poisoning by alcohol are not at all common. In the following (for an account of which we are indebted to Mr. Oliver Penfold, resident surgeon to the Poplar Hospital) the symptoms and post-mortem appearances were similar to those which have been noted in other cases. These are worth recording, if it be only as a help towards accuracy of diagnosis in those difficult cases where there is coma, with a history of drink, and a doubt as to the presence either of concussion or poisoning by opium.

S—— and D——, West India Dock labourers, were brought to the Poplar Hospital at seven P.M. on Saturday, April 18th, 1868. Both were insensible, breathing stertorously and slowly; faces blue; extremities cold; pupils widely dilated, and insensible to light; pulses

generally slow, ranging during four hours from 60 to 130. The breath smelt strongly of rum.

The statement made by those who brought them was that these two men had broached the cargo (rum and sugar) of a ship unloading in the West India Dock, and had been seen at five A.M., two hours previously, drinking rum out of a pint pot. D—— had vomited before admission, but S—— had not been sick.

Water was first pumped into the stomach, and its contents afterwards drawn out. From D——'s stomach scarcely anything besides the water returned; but from S——'s stomach a yellowish-brown curdy mass was obtained, having a powerful odour of rum, and apparently consisting of sugar, food (meat and potatoes), and rum. After this, the cold-water douche, galvanism, ammonia, and artificial respiration were persevered in for four hours uninterruptedly, when S—— died. D——'s respiration being deeper, and the skin nearly natural in colour, he was put to bed, and hot-water bottles were applied to the feet. He remained quiet until eight o'clock the next morning, when he awoke and complained of intense thirst. His eyes were bloodshot, and his breath smelt almost overpoweringly of rum. Water was given to drink *ad libitum;* and a mixture composed of an ounce of compound magnesia with sulphate of magnesia and a scruple of bicarbonate of potash was ordered to be taken every four hours. In the evening he still complained of thirst; pulse 60, with a sharp impulse; tongue dry, but clean; bowels opened freely; was rather restless all day. Twenty minims of tincture of opium were given. He slept fairly after this, and next morning was less thirsty. Took a draught composed of an ounce of compound chloroform mixture and ten minims of tincture of opium every four hours. On April 21st, two days after admission, he was discharged apparently well.

At an examination of the body of S——, held thirty-six hours after death, the following condition was observed:—Brain, lungs, liver, and kidneys highly congested; otherwise healthy. Heart enlarged; the left ventricle contained black fluid blood. Stomach enlarged; in it were about five ounces of a grumous pasty mass. The mucous membrane mottled here and there by patches of a light-red colour. Intestines congested. A large black clot blocked up the inferior cava for two inches near the diaphragm. The bladder contained urine, four ounces of which were drawn off; it was of a pale straw-colour, having a faint garlic-like odour; acid reaction; sp. gr. 1018; a few drops of nitric acid added to it, and heated to boiling, produced a coagulum equal in bulk to one-eighth of fluid used; under the microscope were seen numerous epithelial casts of various size and shape, and much bladder-epithelium.

SECT. IV.—THERAPEUTICS.

ART. 101.—*Aloes.*

(*Medical Times and Gazette*, January 4.)

In a long and elaborate article the writer "winds up" what he has to say in the following axioms:—

"Aloes should always be given in the solid form. It takes twice or thrice the quantity in solution to produce the same effect. All the tinctures, wines, and elixirs are as wasteful as nasty. Even the favourite decoction is a mistake. It were far better to give one grain of watery extract in a pill, and a dose of potash and cardamoms in a draught, than to waste four grains of the extract in an ounce of decoction.

"The best aloes should always be given, no matter its price. It would not fetch the money if not worth it.

"The watery extract should also be always given; the crude is barbarous. How is the dose to be fixed of a drug of which twenty to sixty per cent. may be inert?

"All the preparations containing alkali, like the enema aloes of the P. B., 'in order to render the resinous parts soluble,' &c. &c., are nonsensical barbarisms. The active principle of aloes is as soluble as sugar, and what is dissolved by alkali is useless, if not mischievous.

"The time which aloes takes to operate—viz., from six to ten hours—the greater activity of solid than of liquid preparations, and the kind of effect produced, are positive and ultimate facts. There is said to be a notion that it acts on the muscular fibre, and not on the mucous membrane of the intestines; that it has 'an effect on the venous system;' and that the reason it acts on the large intestines is because it does not dissolve till it reaches the colon. We may well gasp when such delirious stuff is handed about as medical knowledge! Aloes is as soluble as sugar; no respectable pharmaceutist would sell a pill knowingly that would not dissolve in the stomach, and if it did pass the thirty feet of stomach and small intestines undissolved, who could insure its solution in the six feet of the drier and more sluggish colon?

"Its action on the colon is through the blood, and not local. An enema of pure aloes neither irritates the rectum nor a wound.

"Aloes, so salutary to the torpid bowels of full-fed, phlegmatic people as an *eccoprotic—i. e.*, 'scavenger'—may gripe the colon and irritate the rectum severely if given to persons whose bowels are not loaded, and tongues clean and reddish. Or it may do the same to any one, if given too often or in too large a dose, or for the purpose of acting like a saline purge. Great spasm of the rectum, piles, and a copious discharge of thin mucus may be produced by too large doses or too often.

"Aloes may be taken for forty years discreetly, and produce no piles. Again, piles may come to persons who ought to take aloes but do not, and may follow any violent purge which forces the mucous membrane through the sphincter. They often follow spontaneous diarrhœa and dysentery, as they do aloes if misused, no more and no less.

"The dose of aloes should be as small as possible, and reduced by degrees. Half a grain to a grain of watery extract is enough for ordinary constipation.

"It may be given to the youngest children—for instance, to babies of a year old, whose bowels are obstinately constipated, and motions pale and curdy. For children too young to swallow a pill, no vehicle is equal to the powder or (better) the powdered extract of true liquorice, which again may be enveloped in a bit of butter, and put on the back of the tongue. A bit of extract of liquorice dissolved in the mouth

first, and coating the tongue, prevents some nauseous medicines from being immediately tasted.

"Experience seems to show that aloes acts more satisfactorily when dissolved and combined with certain substances not purgative. But the aloes must not be spoiled by too long a process. Minderer and Marcquis used to subject aloes to *insuccation—i.e.*, dilution with bland juices; they dissolved it in water (Marcquis threw away the dregs, like a man of sense), then mixed the solution with wine, the juice of rose-leaves, &c. In fact, the pompous 'Aloedarium' of Minderer was one preparation of the kind, and the *pilulæ aloes dilutæ* of the late Dr. Marshall Hall another. The prescription of Dr. M. Hall, in so far as it used crude aloes, was worse than its Jewish predecessor, the *pilulæ alefanginæ*, 500 years earlier, and that of the present P. B. worse than that of the P. L.

"Many aloetic compounds have existed with acid, including deservedly forgotten elixirs. One of some value remains in the pills of Barbadoes aloes, four grains mixed with two minims of concentrated sulphuric acid, which is said to overcome very obstinate bowels. The acid seems to lose its causticity. This is quoted from the *Surgeon's Vade Mecum*, ninth edition, appendix, where it is said to be derived from Dr. Robert Dickson, the eminent botanist and pharmacologist.

"Of the ancient combinations of aloes with aromatics the *hiera picra*, or 'sacred bitter,' of the Græco-Romans, a compound of aloes with cinnamon, is still given, mixed with gin, by old women to young girls troubled with 'obstructions.' The pills of aloes with myrrh, which bear the name of Rufus, who lived in the second century, and with assafœtida, are survivors of a very large family. Aloes compounded with tonics, as iron, strychnia, zinc, quinine, often enables those tonics to be taken with benefit.

"One thing more has survived, and is in the most active use at present—viz., the combination of aloes with real drastic purgatives; as the pilulæ gambogiæ comp., and pil. coloc. comp. Both are simplified forms of ancient prescriptions; and the compound colocynth dates from at least the time of Galen, the aloes being added to mitigate and correct the action of the stronger ingredients. This compound may be traced in various forms down from the Greeks through the Arabians to ourselves; but the singular thing is that it is known to our vulgar by the name which it had centuries ago, though the physician may have forgotten it. Many a practitioner who has loitered in a chemist's shop has heard customers ask for a penn'orth of *Pill cochy*, or, as many call it, *Pil a coshy*. This is in some establishments the same amongst pills that a Saturday pie is amongst dishes—that is, a compound of all the odds and ends of purgatives worked up with common aloes, so that a good lump can be sold for a penny. But its real composition is seen in formularies of the last century, where it appears as 'Pilulæ ex colocynthide cum aloe, vulgo *coccíæ* minores.' One of the most effective purgatives in the world is this same pill, as now made at Apothecaries' Hall, and used by old-fashioned practitioners and families. But why is it called 'Coccíæ?' The answer involves the history of pills.

"When mankind became civilized enough to take physic, they soon must have learned the comfort of swallowing nauseous drugs in the solid form. The solid bits so swallowed were prescribed by the Greek and Roman physicians after the magnitude of various berries and seeds; thus, Celsus directs the size of an almond of one composition, the size of an Egyptian bean of another, and so on. The morsels themselves were called *catapotia*, which we should now call *boluses*, although the exact English equivalent is *gulp* or *gobbet*. But the word *coccus* was also used for a small berry, and *coccion* for the diminutive thereof; and the word *coccia*, or seeds, for what we call pills, seems to have been brought into popular use in the seventh century. The original *coccia* were lentil seeds—'granula ervi.' Paul of Ægina's recipe, in the sixth century, was—Of aloes, colocynth pulp, and extract of wormwood, each one part; scammony, two parts: mix. His dose was *eleven* coccia, each the size of a lentil. We pity the bowels that should be subjected to so many *coccia* of the compound colocynth pill of the British Pharmacopœia.

"Two kinds of pills became famous, as the greater and lesser coccia. Hence, the word *coccia* was adopted in later Latin, not as the name of pills in general, but of these pills in particular; moreover, it was corrupted into a feminine noun of the first declension; and hence it is that English poor people now go to chemists' shops to ask for *pil. cochiæ*."

Art. 102.—*On the Use of Alcohol in Acute Diseases.**

By Francis E. Anstie, M.D., F.R.C.P.

(*The Lancet*, March 28.)

The author began by observing that, for the last few years, there has been a tendency to condemn what has been called the "indiscriminate" use of alcohol. He objected to the term "indiscriminate" as applied to the teaching and practice of the late Dr. Todd; and remarked that, if we would eliminate a source of fallacy, Dr. Todd must not be charged with that which he never intended. Dr. Todd no doubt used large quantities of alcohol in particular cases; but it was only by an abuse of language that he was charged with giving it indiscriminately. He (Dr. Anstie) had very lately again examined Dr. Todd's work on *Acute Diseases;* and he found, in accordance with what had always been his impression, that Dr. Todd, as distinctly as any advocate of the "natural-history" or expectant treatment of disease taught that many pyrexial cases could be treated entirely without alcohol. When Dr. Todd gave alcohol in large doses, it was partly as food, partly in accordance with certain symptoms —an unusual insensitiveness to the effects of alcohol, and an apparent improvement after the administration of large quantities. He proved that alcohol was not *per se* an inflammatory agent; but that, while sometimes six ounces of wine will aggravate pyrexia, in other cases six times

* Abstract of a paper read at a meeting of the Metropolitan Counties Branch, British Medical Association, March 20th.

that quantity will not produce this effect. Dr. Todd's untimely death left the investigation unfinished. He did not sufficiently work out the problem of treating pyrexial diseases simply by hygiene and proper food; but this problem has been to some extent solved by Drs. Gairdner, Hughes Bennett, and others, since Dr. Todd's death. We know now more clearly that most pyrexial diseases run a certain course, which cannot be altered. Interference may do harm, but it is doubtful whether it does good in a large number of cases.

In regard to the administration of alcohol, we have arrived at a point where we are in want of indications to guide us in its use. There is one symptom in acute pyrexial diseases which would force us to its use —failure of the power of the heart, as denoted by the first sound. But no one, Dr. Anstie thought, who had a large experience would allow his patient to fall to such a point of weakness before giving alcohol. If a patient had a florid face, all the old prejudices were at first against alcohol. But this condition was no essential reason for avoiding it, for probably congestion might be only the result of paralysis of the vaso-motor nerves, and alcohol might even remove the congestion if, as there was reason to believe, it acted as a stimulant of the vaso-motor system. This effect had been pointed out, in respect to typhus fever, by Dr. J. Russell, of Glasgow. As to rapidity of pulse, alcohol was probably necessary in six-sevenths of the cases where the pulse was above 120 or 130. There were sometimes, however, cases of pyrexial disease—such as pneumonia, pleurisy, and pericarditis, and some cases of fever—in which the pulse rose rapidly, and came down again in a day or two without any interference by treatment, even though the patient might in the meantime be delirious. Coma was not in itself an indication either for or against the use of alcohol. Delirium generally indicated the use of wine; yet in many cases it subsided if left alone. He (Dr. Anstie) could not agree with the opinion of Dr. Russell, of Glasgow, that alcohol overcomes delirium by narcotizing the patient; on the contrary, intelligence is rendered lively and clear. He agreed with the doctrine of Dr. Todd, who taught that alcohol subdued delirium by raising the condition of the brain and thus quieting its action. The pulse, as felt by the finger, was not in all cases a safe guide. A few practitioners may perhaps feel so accurately as to be able to distinguish even the finest variations in the pulse; but the immense majority of medical men cannot distinguish the various *nuances* and modifications of importance. These could be made out only by means of mechanical appliances. Physicians used to hear of the "hard bounding" pulse of acute inflammation; but in an examination by the sphygmograph of the pulse in numerous cases of pyrexial disease, Dr. Anstie had never been able to find this kind of pulse, except where cardiac or arterial disease pre-existed. Again, amongst the soft pulses there were endless shades of difference. Dr. Burdon-Sanderson had shown what the great physicians of former times well shadowed forth in their descriptions of the *pulsus durus et celer, mollis et celer, frequens et celer*, &c.; but this knowledge they had not transmitted to their followers generally. The finer characters of the pulse could only be made out by the few with the unaided finger. It is easy to feel a bounding pulse when it is present, as in hypertrophy, &c.;

but, on the other hand, nothing is so easy as to falsely imagine its presence when a different state of things really exists.

For the indications, then, as to the use of alcohol in doubtful cases, we are led to turn towards physical modes of research, and the evidence of a surer sense than that of touch. First of these, Dr. Anstie mentioned the thermometer as essential in determining temperature, as the sensation of heat communicated to the hand was very deceptive. Without fully discussing a subject which had already been rendered popular, principally through the writings of Wünderlich, Aitken, and Ringer, he would observe that no hospital physician or surgeon, no private practitioner even, can properly dispense with the thermometer in treating acute disease. The thermometer, however, was not an infallible guide, and further means of appealing to the most reliable senses were valuable. Foremost among these was the measurement and written record of the pulse by the sphygmograph. Dr. Anstie then described the various forms of the dicrotic pulse which is always present in pyrexia, showing by diagrams from actual tracings, that the severity of pyrexia fairly corresponds to the depth of the dicrotic notch in the pulse-curve; thus we have "sub-dicrotism," "full dicrotism," and "hyperdicrotism," an ascending scale of severity, to which the temperature-changes mostly, though not always, run parallel. In every case where the curve is hyperdicrotic, the dicrotic notch dipping below the level of the curve basis, there is a strong *primâ facie* case for alcohol. An experimental dose should be given, and the sphygmograph applied to the pulse fifteen minutes later. If now it appears that the pulse is made slower, and the dicrotic notch is *shallowed*, the alcohol is doing good; for this indicates that arterial pressure has been raised, and it will constantly be observed that the patient gives signs of relief. If, on the other hand, the pulse becomes quicker, and more dicrotous, the probability is great that an improper lowering of arterial pressure has been produced, and that the alcohol was either excessive, or else was entirely unsuited to the case. Another point of great consequence is the form of the apex of the pulse-curves. So long as this keeps sharp, or the curves are of good height, there is not much need for anxiety; but if the apex becomes softly rounded, and the curve itself small, while the fever is still high, prompt and liberal stimulation is an absolute necessity; this is a delicate indication that the heart is failing. Another point is the compressibility of the pulse, which can be so much better tested by the sphygmograph than by the finger, especially with the important modifications of the apparatus for varying the pressure recently made by Mr. Foveaux, of Weiss and Son's. This gives us most delicate indications as to the necessity of using wine.

Another method of physical diagnosis was to ascertain whether alcohol was eliminated in the urine. Notwithstanding what had been taught by Lallemand and others, alcohol was changed in the blood, even when intoxicating doses had been taken. Dr. Anstie said that after intoxicating six persons with alcohol, Dr. Dupré found very little alcohol in the urine, not one per cent. In febrile diseases, in however large doses it may be given, it is not, unless the patient be oppressed by it, eliminated in a recognisable way. If the patient present symptoms of intoxication, even in the slightest degree, and especially if the pulse become

rapid, the quantity of alcohol in the urine becomes at once sensible. It was not difficult to ascertain roughly whether alcohol was present in the urine in noticeable quantity. Three or four ounces of the mixed urine of twenty-four hours must be distilled first with an acid, then with an alkali. The final distillate would contain all the alcohol to be found, and its presence might readily be detected by the chromic-acid colour test; and, with a little trouble in forming a scale of shades of colour, an estimate of the quantity might be easily made. If the alcohol were acting well, none ought to be found in the urine. Dr. Anstie believed that some real advance in the means of determining whether alcohol should or should not be used is indicated by the foregoing observations. The form in which it was given was of much less consequence: if under its use delirium was diminished, the pulse rendered slower, and the temperature lowered, there was evidence at least that it was not doing harm, and was probably acting usefully.

Art. 103.—*On the Use of Alcoholic Stimulants.*

By A. T. H. Waters, M.D., F.R.C.P.

(*On Diseases of the Chest.*)

There can be no doubt, Dr. Waters thinks, in the minds of those who have watched the effects of alcoholic stimulants, of their therapeutic value in some of the acute diseases of the chest. In the bronchitis of the aged, attended as it often is with profuse secretion, threatened apnœa, and a weak pulse, wine or brandy, given at regular intervals, is, in Dr. Waters's opinion, the most useful remedy we possess. Again, in pneumonia occurring in aged people, stimulants may be given without any hesitation. It is not simply at the one extreme of life that such treatment is applicable. In the treatment of the pulmonary affections of children, Dr. Waters has found stimulants of great value. According to his experience, children bear stimulants very well. Dr. Waters has seen the treatment of infantile pneumonia, and of bronchitis, by tartar emetic and mercury; but he has been led to form an unfavourable opinion of the value of these drugs in such cases, and in his own practice he has adopted a moderately stimulating treatment, which he has found followed by satisfactory results.

Art. 104.—*On the Therapeutical Action of Medicines in Dilated Conditions of the Blood-vessels.*

By Archibald Reith, M.D., Physician to the Royal Infirmary of Aberdeen.

(*Edinburgh Medical Journal*, February.)

The conclusions at which Dr. Reith has arrived are the following:—

1. Whatever may be the ultimate and varied effects of medicines on the system, their primary action is analogous to the primary steps of the

inflammatory process, namely, excitement of the sympathetic (contraction of blood-vessels), followed by paralysis (dilatation of blood-vessels).

2. The variety in the symptoms produced by the different medicines is due, partly at least, to the local tissues or nerves for which they severally have an affinity.

3. In diseases attended with a dilated condition of the blood-vessels, the proper medicines to administer are those which act physiologically on the affected part, and the dose must be such as will do no more than excite contraction of the dilated vessels (stimulus of sympathetic).

4. In so far as the dose proper to such conditions is unknown, it is to be determined by experience, and by observation on the paralysed vaso-motor system.

Art. 105.—*Tincture of Actea Racemosa.*

(*Medical Times and Gazette*, January 18.)

A provincial physician draws the attention of the readers of the *Medical Times and Gazette* to the therapeutical value of the tincture of actea racemosa in allaying the teasing and hacking cough of consumption and chronic bronchitis. He has for three years used this remedy largely in these complaints, as well as rheumatism, and considers it to be equal to morphia in its anodyne properties, and has none of the bad effects of that drug.

Art. 106.—*Remarks on Pepsine.*

By F. W. Pavy, M.D., F.R.S., Senior Assistant-Physician to, and Lecturer on Physiology at, Guy's Hospital.

(*Digestion and its Disorders.*)

In the chapter on Gastric Digestion, Dr. Pavy makes the following practical remarks, which may perhaps throw some light upon the very numerous cases where pepsine has been administered with no more effect than would have been produced by as much cold water:—

"Pepsine procured from the stomach of the calf and pig has an extensive sale as a medicinal agent, being administered in dyspepsia and some other complaints, with the view of contributing assistance towards the performance of digestion. Seeing that pepsine happens to be always present in the mucous layer at the surface of the stomach, doubts may not unreasonably be entertained regarding the utility of, or the reality of any assistance to be derived from its administration. It may be admitted, however, as possible that in some cases the pepsine in the stomach may be deficient in quantity or defective in quality, and that service may be derived from its administration with the food: but for this to be the case, it stands to reason that the pepsine employed must be in an effective condition. Now, speaking from the examination of several specimens of pepsine procured from some of the largest pharmaceutical establishments in London, the bulk of that which is sold is totally

devoid of any active property. Whether this arises from too much heat having been employed in its preparation, or from whatever cause, the fact remains that the chief portion of the pepsine sold and administered, being perfectly inert as a digestive principle, is destitute of any real value as an agent for affording assistance towards the performance of digestion. Whatever benefit therefore has seemed to accrue from the employment of such a preparation, must have arisen from its influence on the mind rather than on the process of digestion."

For making artificial gastric juice, Dr. Pavy says that either prepared pepsine or the fresh or dried stomach may be used. Of good pepsine ten grains to the ounce of water is sufficient to produce an energetic digestive solution, with the requisite addition of acid. If the fresh stomach be taken, the pulp scraped off from the mucous surface, or the mucous membrane itself, cut into pieces, must be infused in cold or tepid water, for from twelve to twenty-four hours. The strained infusion is then treated with the acid, and an artificial digestive liquid is obtained. According to Dr. Pavy, twenty drops of strong hydrochloric acid to the ounce makes a very powerful digestive solution.

Art. 107.—*On the Use of Gum-Ammoniac.*

By M. Briquet.

(*The Lancet*, January 4.)

At a recent meeting of the Academy of Medicine, M. Briquet read a report on the memoir which had been presented by M. Delioux de Savignac, and which contained the relation of numerous researches on the use of gum-ammoniac. Among other remarks, M. Briquet mentioned that the use of this remedy was too much neglected nowadays. This substance, he said, exercised an undoubted and efficacious influence on the mucous membrane of the respiratory organs in chronic bronchitis assuming a catarrhal form. M. Delioux de Savignac explains the therapeutical influence of this resin by means of the experiments of Virchow, who had observed that the movement of the vibratory cilia was notably accelerated by the contact of resinous substances. In order to insure the advantageous effects of the remedy, M. de Savignac is of opinion that it must be administered in doses of from two to four grammes a day.

Art. 108.—*On the Digestion of Proteids by the Pancreas.*

By Dr. Kühne.

(*Medical Times and Gazette*, December 14, 1867.)

1. Alkaline pancreatic infusion (the pancreas being removed from an animal during digestion) will not only digest proteids, but will digest them at a rate and to an extent compared with which gastric digestion seems a slow and feeble process. It takes the collected ferment of a

whole stomach days to digest half the amount of fibrin which the pancreas will digest in as many hours. 2. The pepton produced by the action of pancreas, the pancreas pepton, differs in no essential respects from gastric pepton. Its neutral solution (and it is exceedingly soluble in water) is highly diffusible, is not coagulated by heat, and gives the ordinary proteid reactions. It differs chiefly from gastric pepton in the precipitate with acetate of lead not being redissolved in an excess of the reagent, as is the case with the latter; but even this mark appears uncertain. It certainly agrees exactly neither with the *a*, *b*, nor *c* pepton of Meissner; but pepton prepared by Kühne from fibrin by means of pig's stomach exhibited the same want of agreement. 3. Perhaps the most striking fact in the experiment is the enormous production of tyrosin and leucin. Kühne even goes so far as to recommend pancreatic digestion as the most convenient method of preparing tyrosin. We seem to see here the reason why tyrosin and leucin are so often found in pancreas and sometimes in pancreatic juice; they rise from self-digestion. Thus a pancreas of a dog weighing 47 grms., minced and boiled immediately after removal from the body, gave a decoction containing a trace of pepton, not even an indication of tyrosin, and only minute quantities of leucin. Another pancreas of 53 grms. minced and left to itself for three hours in 1 litre of water, gave abundance of pepton, much tyrosin, and still more leucin. That, however, in the experiment of fibrin digestion neither leucin nor tyrosin came from the pancreas alone is shown by the fact that the tyrosin obtained weighed nearly as much and the leucin more than twice as much as the dry weight of the pancreas used. According to these experiments, therefore, digestion (at least pancreatic digestion) is not a mere conversion of proteids into diffusible modifications, but a process of actual destructive decomposition. We learn from Thiry's analysis that pepton has about the same elementary composition as undigested proteid; and hence it is extremely unlikely that the change taking place in digestion consists in the splitting up of fibrin, for example, into pepton on the one hand, and into leucin, tyrosin, &c., on the other. A much more probable idea is the one that pepton is a stage of decomposition; that the whole of the proteid undergoing digestion is changed first of all into pepton, which is afterwards split up into various non-proteid bodies.

Art. 109.—*Treatment of Whooping-cough by Bromide of Ammonium.*

(*Canada Medical Journal*, November.)

Bromide of ammonium is one of the best remedies we have ever used in whooping-cough. To a child two years old, two or three grains may be used three times a day. Its value is enhanced by the addition of hydrocyanic acid and stramonium. We use a formula such as this: bromid. ammon., 60 grains; hydrocyanic acid, 20 minims; tinct. stramonium, 20 minims; water and syrup, 4 ounces. A teaspoonful of this mixture three times a day to a child of two years, will seldom fail to produce a marked impression within twenty-four hours.

Art. 110.—*Physiological Effects of Santonine.*

By M. Pelikan.

(*Medical Times and Gazette*, December 14, 1867.)

According to the recent inquiries of M. Pelikan, the celebrated toxicologist of St. Petersburg, this substance possesses other properties than those usually attributed to it. M. Pelikan states these conclusions:—(1) Santonine produces a sort of paralysis, accompanied by rigidity of the muscles. (2) Its effects are produced in manner analogous to the mode of action of atropine and physostigmine. (3) It entirely destroys the irritability of muscles, rendering them completely rigid. (4) Its therapeutical properties deserve to be more fully inquired into.

Art. 111.—*Propolis as a Remedy for Diarrhœa.*

By H. O. Hitchcock, M.D., of Kalamazoo, Mich.

(*Chicago Medical Journal*, September, 1867.)

Dr. Hitchcock, on the recommendation of a layman, has employed propolis (a resinous exudation with which bees cover the bottoms of their hives) in the treatment of acute and chronic diarrhœas, and finds it "one of the best and most reliable remedies he has ever used, in nearly all cases of simple mucous diarrhœa, even when violent and accompanied by severe pains, vomiting, and collapse. In several cases of diarrhœa in children it has acted like a charm. It appears to possess an anodyne and soporific property, and yet does not cause constipation of the bowels." He "prescribed it in several cases of chronic diarrhœa, in some of which the disease was contracted in camp. All these patients have reported to me 'that the medicine has acted like a charm,' being far more efficacious than any remedy they have used."

Dr. Hitchcock first employed a tincture, made by dissolving two drachms of selected propolis in four ounces of alcohol. Of this, from half a teaspoonful to a teaspoonful, in sweetened water, was given to an adult after each stool; for a child the dose was from five to twenty drops. The taste is pungently aromatic, but not unpleasant.

Finding that when the tincture was added to water or syrup a copious precipitate was thrown down, Dr. Hitchcock afterwards employed an alkaline solution, made by incorporating two drachms of propolis with one drachm of liquor potassæ, and then adding equal parts of simple syrup and water so as to make a two-ounce mixture. Of this the dose was half a teaspoonful after each stool.

Art. 112.—*On the Physiological Action and Therapeutical Uses of Belladonna.**

By John Harley, M.D., F.R.C.P., Assistant-Physician to King's College Hospital.

(*Medical Times and Gazette*, March 21.)

Dr. Harley administered physiological doses, short of toxical effects, to man, the horse, and the dog. The method usually adopted was subcutaneous injection, and the solution one of sulphate of atropia. To man this was administered in doses varying from $\frac{1}{150}$th to $\frac{1}{36}$th of a grain. The symptoms were more or less delayed and powerful according to the dose, but the sum of its action seemed to be as follows:—After a few minutes there was a rather sudden acceleration of the pulse from twenty beats to double its previous frequency; its volume and force were also augmented; the temperature was increased about 1° Fahr. externally and slightly internally, and there was heaving of the carotids, also giddiness, heaviness or somnolency, nervous delirium and startings; dryness of the tongue, palate, and throat, with huskiness of voice; a dry brown fur on the tongue, which was usually moist at the tip and edges; gradual and increasing dilatation of the pupils. In two or three hours the dryness of throat and tongue gives way, and there is a very acid viscid secretion of a fishy odour; then the pulse falls, but the pupils are in their highest state of dilatation. There is no effect on the respiration; occasional sighs and prolonged yawns. After the pulse assumes its ordinary rate the giddiness passes off, and he seems the same as before; but he feels languid, and there is dulness of mind and diminution of vision. Headache during these symptoms, or afterwards, is rare and exceptional. Desire for food soon returns, but during the action of the drug insalivation or deglutition is impossible. The same accelerating effect on the pulse was observed on giving it by the alimentary canal, and with succus belladonna there were exactly the same symptoms, only altered in rapidity.

Conditions interfering with its Action.—1. Children are remarkably insusceptible, and occasionally bear very large doses before cerebral symptoms and dryness of throat are produced. But dilatation of the pupil occurs as rapidly in the young as in the old. 2. Among adults some are more susceptible than others: it is doubtful whether pregnancy does not fortify against it. 3. Fixed caustic alkalies decompose the active principle, but only after a time; if taken immediately on mixing, its power is unaffected.

Results of Action and Mode of Elimination.—The kidneys are very active in its elimination from the minute it enters, and in two, or at most three hours, all is removed. This occurs at all ages, and in all conditions of the kidney. It is easily detected by its action on the pupils, and its presence can be easily proved if only $\frac{1}{96}$th grain of sulphate of atropia has been given; as the urine is generally retained, this is useful

* Abstract of the Gulstonian Lectures delivered at the Royal College of Physicians, March 4, 6, and 11.

in a medico-legal point of view. During the operation of belladonna the amount of urea excreted is increased, and the amount of sulphates and phosphates still more so, while the chlorides are usually diminished. The urine is increased in quantity and specific gravity. There is no increase in the uric acid, but sometimes a diminution. Hence it will be seen that it has a very similar effect to febrile action, perhaps from the same influence upon the sympathetic system, to which it is a powerful stimulant; but if its action is continued sufficiently long, the vaso-motor nerves are paralysed, and dilatation of the vessels occurs. The excessive oxidation required to furnish the phosphoric and sulphuric acids is from the increased activity of oxidation in the lungs. It is a powerful diuretic, and has the same effect on the other glands, not excepting the salivary. The drying of the mucous membrane in the upper part of the respiratory passages, the browning of the tongue, &c., are difficult to explain. The conjunctivæ are sometimes slightly dry, often injected.

Therapeutical Uses.—1. It is a powerful *cardiac stimulant*. There is no other medicine equal to it; hence it is useful in many cases of syncope and cardiac asthma; $\frac{1}{100}$ grain of the sulphate is generally sufficient. 2. It is *diuretic*, excites the sluggish circulation and torpid kidney. In acute nephritis it calms the nervous irritation and contracts the dilated vessels. In chronic albuminuria it appears to diminish the excretion of albumen. It is a safe medicine in nearly all conditions of the kidney, and tends to keep that organ in a state of healthy excitement. 3. It *promotes oxidation* in the system. Hence it is useful in the uric acid and lactic acid diatheses. If $\frac{1}{50}$ to $\frac{1}{40}$ grain of the sulphate is injected in the neighbourhood of joints affected with rheumatism, the pain is immediately diminished.

Art. 113.—*On the Physiological Effects and Mode of Action of Belladonna.*

By Dr. Meuriot.

(*Gazette Hebdomadaire*, Nos. 12, 15, 16.)

1. Atropine is the active principle of belladonna, and possesses all the properties of this solanaceous plant.

2. Its effects vary according to the kind of animal experimented upon. The carnivora are more sensible to the action of atropine than the herbivora; in man particularly it acts as a violent poison; but no animal resists its influence.

3. Its effects differ according to the doses employed: thus small doses of atropine accelerate the heart and increase its force; toxic doses debilitate the heart and diminish its force.

4. Belladonna is a vasculo-cardiac poison, according to the classification of Professor Sée; its action is especially localized, both upon the vessels and upon the nerves of the heart.

5. The various phenomena produced by atropine depend for the most part upon this primordial and elective action, or the effects are due to the elimination of the poison.

6. Atropine acts upon the heart through the pneumogastric nerve, the peripheral extremities of which it paralyses. It constantly increases the beating of the heart.

7. In small doses it increases the tonicity of the muscles of the vessels: in toxic doses it diminishes and destroys this tonicity, whence the application of belladonna in epilepsy, the accession of which affection appears to be owing to disturbances in the central circulation.

8. The variations of the arterial pressure are subordinate to the state of excitation, or paralysis of the muscular tissues of the vessels.

9. Atropine in small doses accelerates, and in toxic doses lessens respiration. Acceleration of the respiratory movements is owing to an excitation of the respiratory centres; lessening of these movements follows paralysis of the extremities of the vagi; hence the possibility of the application of atropine for the treatment of asthma.

10. Atropine in therapeutical doses increases rather than diminishes the excito-motor functions of the cord; in toxic doses it exaggerates the reflex power, even to the extent of producing convulsions.

11. Atropine always produces restlessness, insomnia, delirium, and in toxic doses, coma; it is not a narcotic.

12. Atropine is eliminated by the kidneys, by all the mucous membranes, and sometimes by the skin in man. Its elimination is always rapid, thus its action is of short duration.

13. The effects due to the elimination of atropine are numerous; they are, redness of the mucous membranes and of the skin, frequent desire to pass urine, colic, straining, and vesical tenesmus, profuse perspiration, diarrhœa, &c.

14. The redness and dry condition of the mucous membranes account for the aphonia, dysphagia, dysuria, &c.

15. Not only are all the secretions of the mucous membranes diminished, but there is also, according to the activity of the circulation, a rapid reabsorption of all the fluids secreted by the surfaces of mucous membranes and of wounds; hence the utility of belladonna against increased secretion of mucous membranes, and its effects on cough, &c.

16. Atropine, when applied locally to the tissues, always determines an activity of the capillary circulation, and, if the dose be a large one, true hyperæmia and blood stasis.

The angina and erythema resulting from the action of belladonna, are analogous to inflammatory processes.

17. The modifications in the urinary secretion are connected with the variations in the arterial pressure.

18. Belladonna does not paralyse the striped muscular fibres; it does not determine phenomena of paralysis except when administered in very large doses, and then always after exaggerated contractions; thus it proves of service in incontinence of urine and fæcal matter, in paralysis of the bladder, against constipation, irreducible hernia, &c.

19. Atropine has no elective action on the sensitive nerves. Its local application is always followed by acute and persistent pains. Atro-

pine acts upon hyperæsthetic nerves alone, and often determines analgesia; but it must be applied directly to the affected nerves.

20. Small doses of atropine elevate the temperature, toxic doses diminish it.

21. Atropine also possesses the special property of dilating the pupil; this is its most constant and persistent effect, and its applications are for this reason numerous in ophthalmic surgery.

Atropine paralyses the terminal branches of the third pair of nerves; this is the single fact demonstrated by experimental physiology in the study of mydriasis from belladonna.

With this paralysis of the ciliary branches of the common motor nerve of the eye is associated paralysis of the muscle of accommodation.

22. Certain experiments and much reflection on the part of M. Meuriot seem to favour the idea of an exciting action of belladonna upon the sympathetic nerve, or upon the dilator of the iris. A more rigorous demonstration, however, is still required.

Art. 114.—*On the Physiological Action and Therapeutical Uses of Conium.**

By John Harley, M.D., F.R.C.P., Assistant-Physician to King's College Hospital.

(*Medical Times and Gazette,* March 21.)

Physiological Action.—Hemlock acts as a depressor of the muscular movements, but the effect is influenced by the state of the muscles, whether they are in action or at rest. If a vigorous adult man take five or six fluid drachms of the succus conii, and then start on a long walk, in half or three-quarters of an hour he experiences a feeling of tiredness, especially in the knees and hamstrings. He may still continue to walk, feeling powerless, with some giddiness and feeling of heaviness over his eyes; in an hour the sense of fatigue has gone off, and in another hour he is as active as ever. If five fluid drachms and a half be taken and he remain at rest, the eyes become first affected, the adjusting function is interfered with, then succeed drowsiness and dilatation of the pupils, then weakness of the legs; he becomes pale, cold, and tottering; the pulse is regular and of undiminished force and volume; there is a diminution of muscular power in every part of the muscular system, and almost paralysis of the hamstrings and levator palpebræ. These symptoms are at their maximum about two hours after taking the dose, and have quite disappeared in three hours and a half. The succus was administered to several persons in doses of from three fluid drachms to one fluid ounce with similar symptoms, but in doses short of three or four fluid drachms there is no appreciable symptom. The action is uniform and invariable in man and in all other animals. There is depression of the motor

* Abstract of the Gulstonian Lectures, delivered at the Royal College of Physicians, March 4, 6, and 11.

function of the third nerve, a lazy movement of the eyes, and sometimes strabismus, with imperfect adjustment of the refracting media of the eye. The effects are quite distinct from those of alcohol—the latter acts on the motor system only secondarily, and does not affect the action of conium. The full action of hemlock is a sleep; it is to the corpora striata, the smaller nervous centres, and the whole of the motor tract, just what opium is to the brain—it tranquillizes and renovates the whole muscular system. At first it appears to paralyse this, but it is really a tonic, for Dr. Harley administered conium in full doses for months, and found the condition of the body was improved. The action of conium is influenced by the muscular activity more than by the muscular power. The sedentary with abundance of strength are more affected than the delicate but active. A delicate child will often take as much as would reduce some strong men to a tottering condition. Hence the dose of conium must be proportioned to the degree of motor activity of the individual, whether child or adult; in fact, it might almost be said that by conium we may measure the bodily activity of the individual. Hemlock has no pure cerebral effects; the irritability of the spinal cord is diminished; there is no evidence of distinct interference with the sensory functions.

Mode of Action on the System.—In thirteen cases in which it was administered, the secretion of urine was in no way altered. By acting on the mixed urine of three cases, both before and after taking the drug, with potash, there was in both mixtures a similar smell of conia; hence it is not eliminated by the kidneys, and could not be detected in the breath or fæces. It has no direct action on the sympathetic, but nutrition is improved. Pain in cancer is diminished, probably from relaxation of muscular fibres, as the division of neighbouring muscular fibres relieves irritable ulcers. A dose of conium which falls far short of physiological effects, is of no more use than a dose of two grains of quinine in ague. Dr. Harley attributed the neglect of conium as useless to the administration of too small doses.

Therapeutical Uses.—There was only time to refer to its beneficial action in the convulsive diseases of children. It is pre-eminently a children's remedy. He gave it to a child $1\frac{3}{4}$ year old suffering from laryngismus stridulus and convulsive cough on excitement; he began with twenty minims, then thirty minims, forty minims, and increased it up to two fluid drachms and a half. There was no appreciable effect till he took forty or fifty minims. There was one attack in the first five weeks (previously one in two weeks), and the child completely recovered. In another case there was a complete tetanic condition of the muscles of the feet, with hyperæsthesia, drawing in of thumbs, contraction of hamstrings, &c., in a child $2\frac{3}{4}$ years old; there were tetanic attacks every now and then, lasting from five minutes to several hours. It got better under the use of conium, but, having omitted it for a time, relapsed, but on resuming it completely recovered.

Art. 115.—*On the Physiological Action and Therapeutical Use of Henbane, alone and in combination with Opium, and on the combined Operation of Opium and Belladonna.**

By John Harley, M.D., F.R.C.P.

(*Medical Times and Gazette*, April 4.)

The lecturer commenced by describing the effects of increasing doses of sulphate of hyoscyamia when used subcutaneously. The following may be taken as a summary:—When given to an adult, and in doses insufficient to produce dryness of the mouth, the only effects are giddiness, somnolency, and dilatation of the pupils, and a progressive retardation of the pulse to that condition in which it exists after a prolonged period of complete rest of mind and body, without diminution in its force and volume.

In doses sufficient to produce complete dryness of the tongue and hard and soft palates, there will generally be an acceleration of the pulse ten or twenty beats, with a slight increase in its volume and power. This acceleration will be observed from ten to twenty minutes after the injection. It does not usually continue for longer than twenty or thirty minutes, and rarely lasts for an hour; dryness of the mouth comes on about twenty minutes after the injection, and continues about an hour.

In most cases there will be great somnolency, attended with so much giddiness that the patient is either unable to walk without assistance or reels about as if drunk; the face becomes slightly flushed, and the conjunctivæ injected; the pupils dilate. After the lapse of about an hour the mouth suddenly moistens, and the pulse, which from the time of its maximum acceleration had been observed to fall some five or six beats every twenty or thirty minutes, now falls with unusual rapidity, until at the end of two hours from the injection, it numbers only sixty, fifty, or even forty-two beats, still, however, retaining its original volume and power; the giddiness and sleepiness slowly pass off, and at this time the pupils attain their maximum dilatation.

The effects are precisely the same when hyoscyamus, or its active principle, is given by the mouth. Compared with belladonna, hyoscyamus agrees with it in its effects upon the mouth and pupils. Its stimulant effect upon the sympathetic nervous system is only manifest in man in large doses, and even in this case it is comparatively transient and much less powerful than belladonna. The most prominent symptoms of the operation of hyoscyamus are excessive giddiness and somnolency, effects produced by atropia in only a very secondary degree. While atropia is chiefly distinguished by its effects upon the sympathetic nervous system, hyoscyamine is distinguished by its influence on the cerebrum. It would appear that hyoscyamine in combination with opium produces the most powerful hypnotic action possible. Each increases the effect of the other. Quantities of morphia and hyoscyamine

* Abstract of the Gulstonian Lectures delivered at the Royal College of Physicians, March 4, 6, and 11.

which of themselves are insufficient to produce sleep, will, when combined, speedily induce that condition.

Like atropia, hyoscyamine is eliminated by the kidneys, and the lecturer stated that he had detected it in the urine twenty-two minutes after the subcutaneous injection of $\frac{1}{15}$th of a grain of sulphate of hyoscyamine.

Treating of its therapeutical use, the lecturer stated that he had found it serviceable in certain cases of epilepsy and enuresis, and extremely valuable in irritable conditions of the brain and heart, and that it is especially useful in often determining and invariably increasing the hypnotic action of opium.

In treating of the combined operation of belladonna and opium, the lecturer, having previously determined the separate effects of atropia and morphia upon the horse, the dog, and man, gave the results of their operation when simultaneously administered, or when the one remedy was allowed to precede the other by a variable time.

From numerous experiments upon the horse, which were made by Mr. Frederick Mavor, of Park-street, and himself, he concluded that the reverse of any antagonism exists with respect to this animal; and he plainly proved by the experiments adduced, that the medicines not only intensify, but very much prolong, each other's effects.

The experiments upon the dog also led to the same positive conclusion. Some of them were peculiarly instructive. In one case a quantity of atropine, which had been proved to be incapable of producing sound or continuous sleep, was given to the animal two hours after the administration of a subcutaneous dose of opium, and at a time when the dozy condition induced by the latter had passed off, the pulse being 78, respirations 18, pupils one-sixth contracting to one-seventh. Within five minutes of the injection of the atropine, the animal was in a complete state of narcotism, and remained so without the slightest motion for the next four hours, and could not be aroused by pinching or pricking the skin, or by poking the finger down upon the glottis. The atropine effects, meantime, were extremely developed, and were much prolonged, and the dog continued to sleep soundly for three hours more.

In man, precisely the same results were observed in all the cases treated with opium and belladonna, either simultaneously administered, or when one was given some time previous to the other.

The lecturer could come to no other conclusion than that, as far as a hypnotic influence was concerned, belladonna decidedly increased the effects of the opium, and on the other hand, opium invariably intensified not one or two, but *all* the effects of belladonna.

One important fact, however, resulted from the numerous experiments which he had made upon the dog and upon man. In a large proportion of patients he found that the subcutaneous use of morphia was followed by faintness, nausea, increasing to vomiting and violent retching, with weak and often intermittent action of the heart, these distressing symptoms lasting for many hours. When, however, a small quantity of atropine (the $\frac{1}{96}$th of a grain) was administered with the morphia, these alarming effects never followed.

He explained this fact by attributing to the atropia such a powerful stimulation of the sympathetic nervous system as was able to overcome

that derangement of the vagus nerve which opium so frequently produces. In other patients in whom opium alone fails to induce sleep, the combination of opium and belladonna, whether given by skin or by stomach, procured the desired result.

Art. 116.—*Remarkable Susceptibility to the Action of Atropine.*

By Michael Thomas Sadler, jun., B.A., and M.D. Lond.

(*Medical Times and Gazette*, April 11.)

On March 23, 1868, in pursuing the treatment for whooping-cough recommended by Dr. Trousseau, Dr. Sadler prescribed for a child, aged three months, a mixture containing $\frac{1}{200}$th of a grain of sulphate of atropine in a fluid drachm. The mother gave the child one teaspoonful early the next morning. In a few minutes the child turned a deep red, "like scarlet fever," over its face and the upper half of its body; the perspiration was checked, and the skin became hot and dry. This continued for five hours.

The next morning, at Dr. Sadler's request, she gave only half a teaspoonful; the same effect was produced, but only lasted for two hours.

On the third morning she only gave four drops, and this time without any effect. Wishing to ascertain the smallest dose which would produce a distinct physiological action, Dr. Sadler desired that six drops might be given the next morning. This was done; the same redness appeared, but this time only lasted for half an hour.

By dropping from a similar bottle, Dr. Sadler has ascertained that six of the largest drops which can be made are equal to fifteen minims, containing $\frac{1}{800}$th of a grain of sulphate of atropine.

No narcotism was produced even by the larger dose first given, there was a slight but not very decided improvement in the character and frequency of the fits of coughing.

Art. 117.—*On the Use of Sulphite of Soda in the Treatment of Erysipelas.*

By Addinell Hewson, M.D., of Philadelphia.

(*Trans. Coll. of Phys. of Philadelphia*, and *Canada Med. Journal*, April.)

Dr. Hewson stated that he had been using the solution of sulphite of soda as a local application in erysipelas since February, 1864, and had obtained results from it, in the various forms of that disease, which were to him both interesting and surprising. He had been induced to try it from the representation made by Prof. Polli of its influence in destroying all disease of a cryptogamic or animalcular origin—a source to which recent researches would lead us to suppose erysipelas was due. At first he administered it internally, in doses of ten grains every two hours, as well as applied it locally; but the effects of the local use were

so prompt and decided, that he has now abandoned its internal administration altogether. In extensive trials of this remedy, both in hospital and private practice, he has never seen it fail when thoroughly applied before the deep planes of cellular tissue had been invaded by the disease. Under the latter circumstance, no positive curative results were of course to be expected from its mere external use. But before such parts had become affected, a solution of ten grains of this salt to the ounce of water, when thoroughly applied on lint all over the surface affected, and to a considerable distance beyond it, and covered with oiled silk to prevent the evaporation of the solution, had not only produced a decided bleaching effect on the discolored surface in every such instance, in the first twenty-four hours of its use, but had invariably destroyed all traces of the disease in forty-eight hours from its first application. The result was the same whether the application was made in the traumatic or idiopathic form of the disease. He had thus cured twenty-seven cases, seven of which were of idiopathic erysipelas. Even in the cases where the deep planes of cellular tissue were involved, as well as the surface, the disease on the surface was always apparently affected by the application. It was most positively bleached in all instances, and in many was evidently destroyed, within the period above stated, even whilst that in the deeper parts proceeded on steadily to suppuration.

Art. 118.—*Clinical Experiences with Dr. Richardson's "Styptic Colloid."*

By John Lowe, M.D., &c., Surgeon to the West Norfolk and Lynn Hospital.

(*Medical Times and Gazette*, January 25.)

Dr. Lowe places on record a variety of cases in which the styptic has been used, and invariably with the best results. He has never seen it fail to answer the ends for which it was designed.

In old chronic ulcers, foul-smelling and filthy to a degree, the odour is at once destroyed, and healthy granulation established. Most markedly was this the result in a case of Dr. Lowe's colleague's. The patient, a young sailor, who had been long at sea, was admitted with a number of very large syphilitic ulcers on both legs, the stench from which made the ward unbearable. They were freely painted over with the "colloid," and in a very short space of time the odour was all but gone. They healed most rapidly.

In cancer of the penis and cancer of the breast it is most serviceable in removing the odour and in mitigating pain.

Burns, which are both troublesome, offensive, and painful in the dressing, are deprived of half their terrors from the use of the "colloid." When profuse suppuration sets in, the "colloid," if painted freely over the surface, at once removes the fœtor, protects the granulations, and the wound speedily heals. No doubt the first dressing is painful, but not so the others. With moderate-sized wounds, the first dressing is

also the last. Nothing further is required but daily painting with the "colloid."

In speaking of erysipelas, Dr. Lowe says that this is at the West Norfolk and Lynn Hospital to all appearance a thing of the past. Some time ago, owing to imperfect sanitary arrangements, almost every surgical case in the hospital was attacked with erysipelas, and several died of pyæmia. Some improvement was effected in the hygienic condition of the hospital, but it is still imperfect. Latterly, however, since using the tincture of iodine to the surface of the wound and styptic colloid externally, there has not been a single case of either erysipelas or pyæmia, and the cases generally remain a very much shorter time on the books.

Art. 119.—*On the Physiological and Therapeutical Action of Bromide of Potassium.*

By MM. Martin-Damourette and Pelvet.

(*Gazette des Hôpitaux*, No. 16, 1868.)

From numerous experiments made on frogs, it was found that two results were brought about under the influence of moderate doses of bromide of potassium: the animal died or recovered from the effects.

Order of succession of the phenomena in cases of death:—1, Pain at the part injected; 2, Muscular vibrations, commencing in the muscles near the spot of injection, and extending in the course of one or two minutes to those of more remote parts; 3, Weakening of movement and sensibility; 4, Diminution of the capillary circulation, slackening of the beats of the heart, which is the last organ to cease contracting (ultimum moriens).

The following are the effects of the action of bromide of potassium on the chief systems and apparatuses of the organism:—Muscular and cardiac irritability is destroyed in from one to two minutes by the contact of the bromide in the solid form or in solution. The senso-motory nerves lose their excitability on the direct contact of the bromide. The excitability of the spinal cord also seems to be directly attacked by the bromide of potassium. The encephalon is likewise affected; the bromide produces a true anæsthetic sleep, like chloroform and ether. The respiratory movements are diminished in the first place, and afterwards destroyed, as all others. The heart is influenced, like all other muscles, by the paralysing action of the bromide; but this organ, far from being specially attacked by this agent, is the last to resist it in cases of true bromism. The capillary circulation was found constantly diminished, in different degrees, in all the experiments. Lowering of the temperature was also constant. This is one of the most important results derived from the experiments of MM. Martin and Pelvet, which show that from its twofold property of lowering the temperature and diminishing the capillary and central circulation, the bromide of potassium may be placed with quinine, digitalis, aconite, veratrine, arsenic, nitre, &c. Of all the secretions, that of the urine is the only one that is manifestly strongly influenced in animals by the bromide; it is always

increased in activity. This fact confirms the law laid down by MM. Trousseau and Pidoux, that agents acting as sedatives on the circulation and temperature are at the same time diuretics.

The constipation occurring in many patients undergoing the bromide treatment manifests a diminution of the intestinal secretion, and still more a diminution of the sensibility and contractility of the muscular tract of the intestines. The same state of things exists in the pharynx, œsophagus, bronchi, and, in fact, in all the muscular arrangements of organic life. This fact explains the success obtained from the bromide when administered for spasm and hyperæsthesia of these muscular tracts (dysuria, incontinence of urine, spermatorrhœa, dysphagia, cough, pertussis, asthma, &c).

MM. Martin and Pelvet have observed neither marked salivation nor angina, nor yet coryza, discharge from the bronchi, and lachrymation; and they are of opinion that the authors who have described these symptoms made use of an iodurettted bromide, or at least administered the bromide of potassium in very strong doses.

The bromide manifests an anaphrodisiac action when given in doses of two grammes and over. This depends principally, if not exclusively, upon its vaso-motor property, which seems to be common to it with all the least uncertain anaphrodisiacs, such as digitalis, conium, belladonna, coffee, camphor, nitre, &c.

The following is a *résumé* of the conclusions and practical deduction from the experimental and clinical researches made by MM. Martin-Damourette and Pelvet with the bromide of potassium :—

1. The effects of bromide of potassium are always direct, that is to say, they are due to the action of this agent on the tissues either of the spot to which it is applied, or those of the whole economy to which it is carried by the circulation, or finally, those of the organs of elimination.

The greater amount of bromide of potassium at the place of its application, and on the surfaces of elimination, accounts for the increased intensity of its action at those different points. This fact would justify topical applications of the bromide of potassium on a large scale, when it is required to be given generally to act against exaggerated nervous and vascular elements. It explains also the success of the bromide in cases of hyperæmia, hyperæsthesia, and spasms of the digestive and respiratory canals, and also of the genito-urinary system, without one being obliged to attribute to the bromide some elective action or special affinity for the mucous membranes of those parts other than that which results from their situation along the routes of entrance and exit taken by the modifying agent. It explains the general sedative action on the nervous and vascular systems, so that the effects of bromide of potassium need not be considered as localized in the spinal cord.

2. The specific character of the bromide consists in its attacking equally the properties of sensory and motory nerves, the brain and the spinal cord, as well as those of the muscles, which at first are gradually weakened and finally wholly abolished. The sensory nerves lose their properties before the motor nerves, the latter before the cord, and the cord before the muscles. The action of the heart is maintained alone

for many hours. When this is arrested, the cardiac irritability may be aroused for a few instants, but soon ceases definitely. From the commencement of the physiological or toxic actions of the agent, the capillary circulation is considerably diminished, and the beats of the heart slackened. The respirations seem to be influenced but mechanically, that is to say, the movements are paralysed with greater or less rapidity, as all other movements. The temperature is lowered very sensibly in cold-blooded animals at first, and for many hours at the injected region, and afterwards in the whole organism. The phenomenon is subordinate to the diminution of the capillary circulation, at first local, subsequently general. The same thing occurs in the secretions from mucous membranes and the skin in proportion to the anæmic state of these surfaces. The genital depression is likewise due to a contraction of the afferent arteries to the corpus cavernosum and to anæmia of this tissue, which amounts to a real frigidity.

The experiments of MM. Martin-Damourette and Pelvet show that the action of bromide of potassium on the human organism is a general one, and that the agent attacks the nervous and muscular systems in every part; it acts as an anæsthetic upon the nervous centres and cords, on the one hand, and on the mucous and tegumentary surfaces on the other; it affects the muscular organs of digestion, respiration, and urinary secretion as well as the striated muscles.

This double anæsthetic and amyosthenic property associated with the sedative action upon the circulation, temperature, and secretions, explains perfectly, according to MM. Martin and Pelvet, the applications that have hitherto been made of the bromide of potassium without it being necessary to have recourse to the special properties of organs and to localizations of action. Thus, by its anæsthetic and amyosthenic action it attacks the most extensive and complex neuroses (epilepsy, chorea, hysteria), just as it acts upon the more localized nervous affections (dysphagia, asthma, whooping-cough, spasmodic dysuria, spermatorrhœa, palpitations, &c.) or only isolated morbid elements, such as the pain of neuralgia, rheumatism, &c. Similarly its sedative action upon the whole extent of the circulation renders it a suitable agent for the removal of hyperæmia, whatever may be its seat and nature; it acts as well in meningitis, ocular, uterine, gouty and rheumatic effusions, as in angina, coryza, cystitis, urethritis, the dermatoses, and probably scrofula and syphilis.

Finally, it is because the bromide of potassium possesses the double nervous and vascular hypersthenic action that it proves to be so remarkably serviceable when administered for severe neuroses of the nervous centres, dependent upon congestive processes, such as epilepsy and eclampsia, hysteria, chorea, &c.

Art. 120.—*Solvents for Cholesterine.*

By Dr. Buckler.

(*American Journal of Medical Science*, and *New York Medical Record.*)

Dr. Buckler, of Baltimore, was consulted by a lady who had always enjoyed good health up to the time of an attack of pain in the right

hypochondrium, amounting at times to positive anguish. An examination revealed an irregular indurated tumour, felt through the walls of the abdomen, and directly over the inferior margin of the liver. The tumour was finally decided to be a distended gall-bladder filled with biliary calculi. A teaspoonful of chloroform was given by the stomach every hour while the pain lasted, and a teaspoonful after each meal for five days longer, when the tumour described entirely subsided, affording unmistakable evidence that the gall-stones, none of which were found in the stools, had entirely dissolved by the use of the chloroform. An attack of the same nature as the former one coming on three months after, chloroform was again used, with the same result as before. It being desirable to administer some agent capable of controlling the chloresterine diathesis, succinic acid and peroxide of iron were prescribed as follows: Hydrated succinate of peroxide of iron, ʒjss.; water, ʒvjss.; of this a teaspoonful after each meal. The patient took of this six months with no recurrence of the attack, and has continued to enjoy excellent health. Three other cases treated with chloroform were promptly relieved.

Art. 121.—*Detection of Salicine in Quinine.*

By M. Parrot.

(*Chemical News*, and *British Med. Journal*, January 25.)

M. Parrot has indicated a method of detecting the presence of salicine in the sulphate of quinine. In effecting this, he takes advantage of the action of chromic acid on salicine; by his process, a quantity as small as half per cent. is discovered. To make the examination, the quinine salt is introduced with a little water into a flask, 2 c.c. of sulphuric acid, diluted with four parts of water, are added, and 4 c.c. of a concentrated solution of bichromate of potash. To the flask is fitted a curved tube, which dips into a few grammes of distilled water contained in the little flask serving as receiver. Heat is applied; at the end of three or four minutes, hydride of salicyle is produced, which distils. By adding to the water in the flask a few drops of solution of perchloride of iron a more or less deep violet colour is developed.

Art. 122.—*Concentrated Solution of Quinine.*

By Prof. Wenzel Bernatzik.

(*New York Medical Journal*, November, 1867.)

Prof. Bernatzik recommends for the purpose of subcutaneous injection, a solution of quinine in sulphuric ether. The alkaloid may be precipitated from a solution of its sulphate by ammonia: after being washed and dried, it is dissolved in ether, which is then evaporated to the requisite degree of concentration. Dr. Bernatzik recommends a solution containing ·05 grm. (7¼ gr. of quinia, equivalent to 9·3 of a

grain of the sulphate), dissolved in a cubic centimetre (a little better than 15 min.) of ether.

We have used a solution of the above strength at Bellvevue Hospital in several instances; it occasioned no pain beyond the introduction of the syringe, and was followed by no bad effects. In one case, ringing of the ears was caused in two minutes after the injection of 4 gr. of the alkaloid.

Art. 123.—*On the Antipyretic Action of Quinine.*

By Dr. C. Liebermeister.

(*Deutsches Archiv f. Klinische Medicin*, iii. 6, 1867; *Schmidt's Jahrbücher*, No. 2, 1868.)

Dr. Liebermeister, in addition to his recently reported observations on the antipyretic action of quinine in abdominal typhus, or typhoid, has given the further results of investigations on the same action of this remedial agent in instances of the following acute febrile affections:—

1. The suppurative fever of variola.

2. Facial and traumatic erysipelas. Four cases are reported with graphical tables of temperature-curves. Included is the following interesting case of erysipelas coming on during an attack of delirium tremens:—

A man, forty-five years of age and an habitual drinker, who had had four years previously an attack of cerebral apoplexy, was, whilst presenting symptoms of jaundice, affected with delirium tremens, associated with the presence of albumen and blood in the urine, and also with erysipelas of the nose and left infra-orbital region. The liver extended about hree fingers' breadth beyond the arch of the ribs in the line of the mamma; the spleen was enlarged; fæces were of a dark colour; there was neither ascites nor anasarca; fever moderate; opium was ordered. At night the patient was restless, and did not sleep; there were many hallucinations. The fever and erysipelas increased, and the latter presented itself in both feet. Jaundice was very distinct; pulse, 90; temperature very high; sulphate of quinine was ordered, in doses of 30 centigrammes, every two hours. On the following day the patient was perfectly conscious and recollected many of his hallucinations; the fever and erysipelas were rapidly disappearing; although the jaundice continued, the appetite returned in the course of twenty-four hours. The patient recovered after a course of Carlsbad waters.

Dr. Liebermeister considers that in this case delirium tremens was symptomatic of and associated with fever accompanying erysipelas.

3. In acute muscular rheumatism, both with and without cardiac affection, the antipyretic action was manifested in most instances, though not in all, after quinine had been administered in simple doses.

4. The denoted action of quinine in cases of acute genuine pneumonia is very manifest, and Dr. Liebermeister prefers this agent to digitalis, particularly in instances in which the patients are depressed, or in which digitalis has been already administered for some time. In these cases the psychical disturbances associated with elevated temperature are abated in proportion to the sinking of the degree of heat.

In typhoid or bilious asthenic pneumonia, quinine should be employed before any other remedy. In four illustrative cases reported by Dr. Liebermeister the quinine treatment was associated with cold douches, wine, and when the expectoration was scanty, with the administration of benzoic acid. Of four cases two were fatal.

5. The curative effects reported of quinine in cases of pneumonia were also experienced after the administration of this drug for acute pleurisy; digitalis was frequently administered with the quinine.

6. Two cases are reported by Dr. Liebermeister in which quinine had a favourable influence on the fever accompanying suppuration. Extremely important and interesting are Dr. Liebermeister's reports on the antipyretic action of quinine in pulmonary phthisis. This action is the more distinct the higher the degree of the fever, and the more it approaches to the continued form. It is especially insisted upon that the widely current opinion, according to which quinine should manifest its beneficial action chiefly in that class of cases wherein the fever is manifestly of an intermittent type, is an erroneous one. Although in most cases of far advanced phthisis, such temporary lowering of the fever can have no very great influence upon the progress of the disease; still there are some cases in which, after the repeated remissions brought about by quinine, the whole disease takes on a manifestly less unfavourable character. In his treatment of pulmonary phthisis, Dr. Liebermeister prefers a less energetic and, for that purpose, a continuous administration in small quantities of the antipyretic remedy, to the use of large doses of quinine. This symptomatic is directed in the first place to diminishing the danger of consumption arising from the fever associated with the local lesions. Dr. Liebermeister's earlier researches, however, have shown that the lowering of the febrile state can, in certain instances, exert a favourable influence upon the course of the local morbid processes. A case in which hæmoptysis was followed by extensive infiltration of the lungs leading to phthisis, was treated by Dr. Liebermeister with splendid results with 0·6 gramme doses of quinine.

A woman, forty-two years of age, had in December, 1864, an attack of pleurisy on the left side, which after its termination left no apparent traces behind. A year later hæmoptysis came on, with cough and pains on the right side of the chest. This lasted for two days, and about two tumblerfuls of blood were discharged. After this followed coughing with ropy expectoration, intense fever and dyspnœa, associated with lividity of the face and disturbed sensorium. The pulse was 116 in the upper part of the right side of chest; as far as the nipple in front, and the spine of the scapula behind, were dulness, loud bronchial breathing, bronchophony, and increased vocal resonance. There was much cough, and the sputum was ropy and stained with blood. On the left side of chest there was nothing abnormal. During the day (December 23), 1·25 grammes of sulphate of quinine were administered; in the evening the temperature was 39°·4 C.; on the morning of the 24th it was 37°·7. The patient continued to take the quinine in doses of 0·6 grammes, whereupon the morning temperature only once more reached 38°. The evening temperatures from December 25 were: 39°·0, 38°·3, 38°·2, 38°·5, 39°, 38°·8, 38°·3, 38°·0, 37°·9, 38°·5, 38° 2, 38°·4, 37°·8, 38°·0, 37°·6, 37°·4, 38°·2, 36°·8. The evening temperature then descended no lower, and from the middle of January the appetite and strength of the

patient increased so much that she was discharged at her own request at the beginning of February. The infiltration still persisted, and in the autumn of the year 1866, the patient died from phthisis.

Dr. Liebermeister gives also a detailed report of a case of pulmonary tuberculosis wherein cavities already existed in the lung. The patient, under a treatment by quinine, associated with digitalis, attained a temporary increase in the weight of the body to the extent of eighteen pounds, and was also enabled to return to work. After the patient left the hospital a relapse, complicated with pleurisy, occurred after some unfavourable weather; quinine and digitalis were again administered with beneficial results, but the patient was removed whilst imperfectly cured.

It is remarked by Dr. Liebermeister that this antipyretic action of quinine associated with digitalis, although frequently manifested, has not been observed in every case; he considers that it is urgently indicated in cases of advanced pulmonary phthisis, to commence the trial of the antipyretic treatment with caution, and to this end he prefers combining quinine with digitalis to small or moderate doses of the quinine alone. The most important part of the treatment of phthisis consists in prophylaxis, and in dealing with the early stages of the disease, and here the desired combination of quinine with digitalis acts as a very powerful curative agent.

Art. 124.—*On the Use of Carbolic Acid in Surgery.*

By D. S. E. Bain, F.R.C.S. Edin., Staff Surgeon-Major, Quebec.

(*Canada Medical Journal*, March.)

From Professor Lister's favourable description of carbolic acid, Mr. Bain was induced to try it in various ways: the first was a case of carbuncle, only remarkable for the method of treatment. It occurred in the ordinary situation, viz., the nape of the neck, free incisions were made, and a pledget of lint saturated with carbolic acid was inserted in the wound, over which a solution of the acid in glycerine (ʒj—ℨj), was used as the ordinary dressing. Within forty-eight hours the slough separated, leaving a clean healthy surface which healed rapidly under the daily application of the acid in glycerine. From the marked success in this instance, Mr. Bain suggested its use in various degrees of strength, according to the nature of the affection. Thus in sloughing (syphilitic) ulcers, and in sluggish ill-conditioned sores on the extremities, this application, he says, has met *every* requirement in the most perfect manner. To cite other cases, a few weeks back, a serious gun-shot accident occurred to a young girl sixteen years of age, carrying away the greater portion of the lower jaw, wounding the tongue and destroying much of the soft parts. The dressing consisted of carbolic acid and glycerine (ʒj—ℨj) which was applied by saturating lint and placing it *carefully* in all the crevices. The hæmorrhage, which was severe, ceased, and the subsequent discharge was healthy without the slightest unpleasant odour, portions of bone came away in the shape of exfoliations in some four weeks after the accident, without the slightest perceptible fœtor.

Art. 125.—*Valuable Preparation of Glycerine.*

(*British Medical Journal*, March 14.)

The Philadelphia *Journal of Pharmacy* contains a formula for a preparation which is likely to prove valuable for external use. Four parts, by weight, of yolk of egg are to be rubbed in a mortar with five parts of glycerine. The compound has the consistence of honey, and is unctuous like fatty substances, over which it has the advantage of being easily removed by water. It is unalterable, a specimen having laid exposed to the air for three years unchanged. Applied to the skin, it forms a varnish which effectually prevents the action of air. These properties render it serviceable for broken surfaces of all kinds, particularly erysipelas and sore nipples, and for cutaneous affections, of which it allays the itching. In the latter case, its harmlessness prevents any interference with suckling.

Art. 126.—*Compound Tincture of Benzoin in Chronic Dysentery and Mucous Diarrhœa.*

By W. N. Chipperfield, M.D., Acting-Physician General Hospital, Madras.

(*Madras Quarterly Journal of Medical Science*, June, 1867.)

Dr. Chipperfield states that he has employed the compound tincture of benzoin in chronic dysentery and mucous diarrhœa. The following is the formula he generally uses:—

For Adults.—℞ Pulv. acaciæ, gr. xxx; tinct. benzoini comp., ʒj to ʒij; tinct. opii, ♏xx to ♏xl; aq. fontan. vel carui, ad ʒvj.—M. A fourth part to be given every four hours.

For Infants and Children.—℞ Tinct. benzoini com., ʒj; vini ipecac., ʒj; syrupi, ʒss; aq. fontan., ad ʒijss.—M. One to three teaspoonfuls every two, three, or four hours.

"Should the stools," he says, "be frequent, very relaxed, but semi-feculent, from ʒss to ʒj of the compound tincture of kino may be added to each dose for adults, and a proportionate quantity for children; or the infusion of cusparia or decoction of hæmatoxylon may be used as a vehicle instead or water. If opium be contra-indicated, it may be omitted; or, if necessary, a proper quantity may be added to the mixture for children.

"The exhibition of benzoin does not in the least interfere with the giving of other remedies when deemed necessary. Thus in asthenic and scorbutic cases, quinine (liquor quinæ amorphous) may be added in any needed quantity to the mixture; or one or two doses may be replaced by a draught containing from ♏xx to ♏xl of liquor ferri pernitratis. Lime juice or Bael sherbet may be given with the medicine.

"When laxatives are needed to insure the emptying of the bowel, castor oil, or rhubarb, or jalap may be given in the early morning, the

benzoin being continued through the day. From half a grain to a grain of podophyllin, with a grain of opium or half a grain of extract of belladonna, given at bedtime, is an adjunct to the benzoin treatment, which I often use with advantage when the liver is inactive. This dose may be given for three or four consecutive nights, or it may only be required once or twice a week. Absence of bile from the stools, an icteric tint of the conjunctiva, and the presence of bile-pigment in the urine, are guides to the exhibition of podophyllin, provided there are no signs of obstruction. The benzoin mixture may also be alternated with the mineral acids when their use is indicated."

Art. 127.—*Iodide of Potassium in large doses.*

(*The Lancet*, January 11 and 18.)

In a letter to the *Lancet*, Dr. Drysdale adds his testimony to the very high value of large doses, such as twenty to twenty-five grains, of iodide of potassium taken three times a day in water, in the treatment of tertiary lesions of syphilis. In deep ulcerations of the pharynx, and in inflammations of the periosteum and bone, it seems very frequently indeed to be most efficacious. Only the other day, a patient at the Metropolitan Free Hospital, whose ulcerated and deeply fissured tongue had many of the appearances of epithelioma, recovered in three weeks by taking twenty grains of the salt three times a day. In Paris this fact is better known than in London, and is taught by M. Ricord, Dr. H. Fournier, Dr. Dolbeau, and others.

Dr. Sisson states, in a letter to the same journal, that during the years 1858-59, whilst a student at the Edinburgh University, he performed a series of experiments in order to test the effects of different drugs upon himself; the result of his observations, with gradually increasing doses, he was enabled to take *one ounce per diem* of that drug with no other effects than slight catarrhal symptoms. He at that time thought that in the treatment of syphilis, chronic rheumatism, &c., all the good effects of the drug might be obtained by small doses; but further experience has convinced him that large doses—twenty or even thirty grains—are not only well borne, but are frequently required in order to effect a cure.

Dr. Peter Eade, of Norwich, says he has continually found the iodide, when given in small or moderate doses, fail to arrest the ravages of ulcerative secondary or of tertiary syphilis, but he has for some time past been aware of the singular increase to the efficacy of this drug which is produced by combining with it a salt of iron, or, what he finds to be better still, a double salt of iron and quinine. In this way he finds that a dose not exceeding eight to ten grains of the iodide of potassium, with the same quantity of the citrate of iron and quinine, rarely fails to stay the progress of the disease, and has repeatedly, in his hands, been at once and progressively effective, when the same dose of the iodide by itself has exerted little or no power over its progress. Indeed, so frequently has this been the case, that Dr. Eade's rule now is to begin at once with the compound mixture, instead of with the iodide alone, or in solution in the usual bitter infusion.

Art. 128.—*The Use of Nux Vomica.*

By M. Delioux de Savignac.

(*New York Medical Journal*, November, 1867.)

At a late meeting of the Academy of Medicine of Paris, M. Delioux de Savignac read a memoir, "On the Paralyses which accompany and follow Dysentery and Dry Colics, and of their Treatment by Nux Vomica." The author believes that strychnic medicaments have more efficacy than electrotherapia in the treatment of the paralyses in question; he attributes it to the continuous action of the nux vomica, and to its electivity of action on the spinal marrow. However, he would avail himself of electricity should the nux vomica not be successful. Finally, if both modes of treatment fail, he recommends the sulphurous thermal waters, but with great care, for dysenteric paralysis, for fear of increasing or renewing the original malady.

Art. 129.—*On the Mode of Action of Strychnia.*

By A. Ingram Spence, M.D., Assistant-Physician Royal Edinburgh Asylum.

(*Brit. and Foreign Med.-Chir. Review*, January.)

The author of this paper, which was read before the Medico-Chirurgical Society of Edinburgh, gives an account of some well devised and seemingly carefully conducted experiments on frogs,—tending to prove,

1. That the mode of the action of strychnia is not through the nerves, nor along the course of the blood-vessels, but through the circulating blood; no effect, in any instance, having been produced when the poison was injected into the abdominal cavity, provided the circulation was arrested by the excision of the auricles, or of a portion of the ventricle.

2. That there are nerve-cells possessed of different functions—some subservient to motion, some to reflex action—differences seemingly indicated by the phenomena produced by the application of strychnia to the cerebro-spinal axis drained as much as possible of blood.

3. That the effects of the alkaloid are not in consequence of its vitiating the blood so as to render it incapable of being influenced by oxygen;

4. Nor attributable to a state of hyperæmia of the spinal cord.

5. That little reliance is to be placed in any of the hitherto proposed antidotes of the poison, especially woorara and tobacco, recovery having taken place after chronic poisoning, seemingly as readily whether either of these or nothing was used.

6. That for medicinal purposes, the best mode of administering strychnia is by the mouth internally; and "in those diseases in which the reflex cells require stimulation, although practically there may be some difficulty in determining the particular cases."

Art. 130.—*On the Physiological Action of the Calabar Bean.*

By Thomas R. Fraser, M.D., Assistant to the Professor of Materia Medica in the University of Edinburgh.

(*Transactions of the Royal Society of Edinburgh*, vol. xxiv.)

The following are the conclusions at which Dr. Fraser has arrived as the result of his elaborate investigations :—

A. *Action through the Blood.*—1. Physostigma has proved fatal to every animal hitherto examined, with the exception of the Esere moth. In mammals and birds, death is most rapidly caused when the poison is injected into the circulation, or when it is brought into contact with a wounded surface. It follows nearly as quickly when Calabar bean is introduced into a serous cavity; much more slowly when it is exhibited by the mucous membrane of the digestive system. In rabbits, death has been caused by its application to the Schneiderian, the auditory or the conjunctival mucous membrane. The skin of frogs resists the poison for a long time; but, if it be applied for a considerable period, and with proper precautions, distinct evidence of absorption may be obtained, though death has never been caused by such application.

2. The contact of the extract of Calabar bean with the gastric juice of a dog, for twenty-four hours and at a temperature a little above 95° F., did not in the slightest degree modify the energy of the poison.

3. A large dose given to a mammal or bird, rapidly affects the cardiac contractions, and then paralyses the heart. The respiratory movements are quickly stopped, but the symptoms and post-mortem appearances are those of syncope. Such a dose injected into the abdominal cavity of a frog, affects nearly simultaneously the heart and spinal cord, and very rapidly destroys the vitality of both organs. In this case the motor nerves are only slightly or not at all affected, and may retain their conductivity for about thirty hours. Evidence of the vitality of the afferent nerves may be obtained as long as the retained vitality of the spinal cord permits of its diastaltic function being examined.

4. In mammals and birds, an average dose produces symptoms of asphyxia. When administered to frogs, a similar dose impairs the function of the spinal cord, and diminishes the rates of the cardiac contractions and of the respiratory movements; and soon after the latter cease. In periods varying from one and a half to four hours afterwards the motor nerves are paralysed; this paralysis implicating their endorgans first, and their trunks afterwards. From this it must not be inferred that the nerve is paralysed by a centripetal progression of the poison; the only fact demonstrated being that a direct ratio exists between, on the one hand, subdivision of nerve-substance, facilitating contact of the poison, and, on the other, rapidity of paralysing effect. Indeed, division of the nerve trunk previous to the administration of Calabar bean, delayed the paralysis of the endorgans. The afferent nerves retain their activity as long at least as the functions of the spinal cord are not lost. The spinal cord and the motor nerves are generally paralysed at about the same time.

5. When a small, but still fatal, dose of Calabar bean is administered to a frog, the effects are the same as those in the previous conclusion, until they arrive at the stage of paralysis of the motor nerves; after this, an interval of several hours may elapse before the functions of the spinal cord are completely suspended. During this interval the *tactile* sensibility of the afferent nerves is increased; so that, if the ischiadic artery and vein of one limb have been tied before the exhibition of the poison, a slight touch of the skin in the poisoned region, which before the administration of the poison caused no effect, will now produce faint twitches of the limb whose vessels are tied; while an ordinary excitant, such as sulphuric acid, will show everywhere a marked diminution in the diastaltic activity, as measured by the métronome.

6. *With a still smaller dose, a frog may have its cardiac contractions reduced by from seventy to eighty per minute, its respiratory movements completely stopped, and the endorgans of its motor nerves paralysed, and yet afterwards completely recover.* This has occurred when two grains of extract were administered to a frog weighing 730 grains.

7. In frogs the voluntary muscles are unaffected by the poison, and may continue to respond to galvanic stimulation during three or four days after its administration. The contrast between this and the effect of Calabar bean on the motor nerves, may be well shown by ligaturing the ischiadic vessels of one limb before injecting the poison. If, when strong stimulation causes no reflex movement, the two gastrocnemii muscles, with their attached nerves, be so placed that an interrupted current from one Daniell's cell and Du Bois Reymond's induction apparatus, may be transmitted simultaneously through either both muscles or both nerve trunks, it will be found in the case of the muscles that when the secondary coil is slowly advanced, contractions will occur with the same current in both muscles, or with a weaker current in the case of the poisoned than in that of the non-poisoned one, this varying with the length of time which has elapsed since the limb was deprived of blood; when the current is transmitted through both nerves, contractions will be produced simultaneously in both muscles, or with a weaker current in the non-poisoned one, or contractions will occur in the non-poisoned muscle only, this also varying with the length of time that may have elapsed since the exhibition of the poison.

8. In mammals and birds, the voluntary muscles are affected in a very remarkable manner. At an early stage of the poisoning, faint twitches occur, which gradually extend over the body, and, at the same time, increase in vigour, so as to interfere with the respiratory movements. Shortly before death, they again become mere successive twitches, often requiring the use of the hand to discover their existence. After death, if a muscular surface be exposed, these twitches will still be observed, involving usually different muscular fasciculi at different times, rarely the whole of a muscle at once, and in mammals they may persist for more than thirty minutes after death. They are caused by a direct effect of physostigma on the muscular substance. This is shown by their continuing after paralysis of the motor nerves, by their persisting in a muscle cut out of the body, and by their non-occurrence in parts that have been separated by ligature from the circulation.

9. In mammals and birds, when the dose is large, the heart's action

is rapidly made slower and then stopped. In dogs it may diminish to one-half in three minutes, and cease in ten. In frogs also a large dose injected into the abdominal cavity, causes rapid and complete cardiac paralysis. A smaller dose causes either a gradual cessation, followed by a renewal at a diminished rate, or a gradual fall from sixty or seventy to four or six beats per minute, followed by a gradual return to a diminished rate of from eight to twenty per minute. At this stage, and for many hours afterwards, the only signs of vitality are this diminished cardiac action and the power of the voluntary muscles to respond to galvanic and other stimulation. In the frog, where alone these last phenomena have been observed, the heart may continue so to contract for three or even five days, provided the temperature of the apartment be as low as 50° Fahr. After stoppage, galvanism may sometimes cause a renewal of rhythmical contractions; but this can rarely be done, and unrhythmical and partial contractions can alone be excited. Cessation of the heart's contractions occurs in diastole, with all the chambers full.

10. The pneumogastric nerves retain their inhibitory power over the heart during the whole time from the diminution to the partial recovery of its action. Soon after this, however, they are paralysed; and this occurs at nearly the same time as the affection of the motor nerves.

11. Division of the pneumogastric nerves, or their paralysis by curare, or destruction of the medulla oblongata or spinalis, does not protect the heart from the action of physostigma.

12. The lymphatic hearts of frogs poisoned by Calabar bean soon cease to contract.

13. In rabbits, a large dose paralyses the cervical sympathetic nerves before the death of the animal. A smaller fatal dose merely diminishes their activity.

14. Before the stoppage of the heart, proofs may be obtained of the vitality of its sympathetic ganglia; but as striped muscle is not affected by Calabar bean conveyed by the blood, we are obliged to infer from the symptoms respectively produced, that the activity of the cardiac sympathetic system is probably destroyed by a large dose, and lessened by a smaller one.

15. The animal temperature, both external and internal, has been invariably observed to rise in rabbits and dogs, but only slightly and for a short period; after which it slowly falls.

16. The condition of the capillary circulation was examined in the web of the frog. Soon after the exhibition of the poison, the smaller arteries and veins contracted slightly; but after a short interval this contraction was succeeded by a rapid and permanent dilatation, in which the calibre of the vessels was considerably above their maximum previous to the poisoning. This capillary dilatation appears to occur all over the body, as is shown by a peculiar blue coloration of the voluntary muscles and of the heart, a similar coloration of the serous and fibro-serous tissues, and a congestion of the blood-vessels in the conjunctiva and iris. This change also occurs, in a less marked manner, in birds and mammals.

17. The general results of experiments in which the arterial and venous tensions were examined were, that the arterial tension first

diminished slightly immediately after the administration of the poison, then gradually increased until it reached its maximum, when the number of cardiac contractions had diminished to at least one-half, and afterwards rapidly fell; and that the venous tension began to increase immediately after the administration, continued doing so until it slowly reached its maximum, when the arterial tension had considerably diminished, and then fell, though more gradually than the tension of the arterial system. The number of the cardiac contractions, when the venous tension had attained its maximum, was about one-third of the average before the poisoning; the respirations were rather less frequent than before, and the temperature had risen a few tenths of a degree.

18. Physostigma causes extreme diffusion in the pigment-cells of the frog's skin, and thus a very marked change occurs in the colour of the animal during the progress of the symptoms.

19. In dogs the peristaltic action of the intestines is usually destroyed at death; it may, however, continue a short time afterwards. In rabbits the intestinal movements are frequently increased in activity before death, and generally continue for a considerable time afterwards.

20. The pupil contracts in all cases of rapid poisoning in mammalians and birds. The contraction may, however, be slight and of short duration; and dilatation may then be observed during the greater portion of the experiment, especially if the dose be a small one. Contraction of the pupil is produced in frogs also.

21. Calabar bean acts as an excitant of the secretory system; increasing the action of the alimentary, mucous, of the lachrymal, and of the salivary glands.

22. In the frog the symptoms of poisoning are not materially altered by removal of the brain, or by division of the cervical portion of the spinal cord.

23. Artificial respiration does not prevent death, in mammals, after the exhibition of a poisonous dose. This is a necessary result of the effects of physostigma on both the cerebro-spinal and sympathetic systems.

24. Congestion of internal organs occasionally occurs: but this is by no means an invariable consequence of a fatal dose.

25. The blood is generally dark after death, but becomes arterialized on exposure to the air; its respiratory capabilities are unaltered; it often clots loosely and imperfectly; and when examined with the spectroscope, the bands of scarlet cruorine are found unchanged. In the rabbit and dog, a microscopic examination demonstrates an invariable change in the coloured corpuscles, which have their outlines distinctly crenated. This change is not caused in the blood of birds or amphibia. The white corpuscles remain unaltered.

B. *Topical Effects.*—1. When the poison is applied to the surface of a frog's brain, no effect is produced; but when it is brought into contact with the spinal cord, a few twitches occur in the extremities, followed by paralysis of the portion of cord acted upon.

2. When physostigma is applied to a mixed nerve-trunk, in a concentrated form and with proper precautions to prevent absorption by

neighbouring parts, first the afferent nerve-fibres are paralysed, and afterwards the efferent.

3. Topical application destroys the contractility of striped and of unstriped muscular fibre. The heart's action is stopped by repeated application to its external surface or to the pericardium. If a small quantity be injected into one of its chambers, paralysis nearly immediately follows.

4. The blood-vessels are dilated when a solution is applied to the web of the frog's foot.

5. The effects of the application of Calabar bean to the eyeball are a somewhat painful sensation of tension in the ciliary region, contraction of the pupil, myopia, and astigmatism; with frequently congestion of the conjunctival vessels, pain in the supra-orbital region, and twitches of the orbicularis palpebrarum muscle.

Art. 131.—*Iodine an Antidote to Strychnine; and on the impropriety of prescribing Quinine or Strychnine in combination with Tincture of Iodine.*

By Henry William Fuller, M.D., Senior Physician to St. George's Hospital.

(*The Lancet*, March 21.)

Recently, while seeing a patient in consultation with Dr. Williamson, of Mildmay-park, Dr. Fuller suggested the administration of a mixture containing a drachm of the liquor strychniæ, two drachms of dilute hydrochloric acid, and two drachms of tinctura iodidi. Mr. Young, the chemist, of Ball's Pond-road, to whom the prescription was sent, observed that a dark flaky precipitate was formed on the addition of the tincture of iodine, and wrote to him, saying: "In whatever sequence the ingredients are mixed, I find that the whole of the strychnine is precipitated by the tinctura iodidi; indeed, so strong is the affinity between these two ingredients that the two fluid drachms of tinctura iodidi are capable of decomposing six fluid drachms of the liquor strychniæ, producing an insoluble compound of oidine and strychnine."

With a view to test the accuracy of this statement, Dr. Fuller has repeated Mr. Young's experiment, and he finds it in every respect strictly correct. If one drachm of tinctura iodidi is added to a solution of three drachms of liquor strychniæ in four ounces of water, the mixture speedily becomes colourless and almost loses its bitterness, and at the same time a dark-brown flaky precipitate of iodide of strychnia takes place. The addition of iodide of potassium, or a large quantity of spirit, will not serve to prevent the precipitation.

Now it is obvious that for medicinal purposes, a mixture in which such a precipitate occurs must be almost valueless. The patient not only loses the benefit of the quinine or strychnine, but of the iodine also. It is not unreasonable therefore to lay down as a rule, that tincture of iodine ought not to be prescribed in a mixture containing either of

the above-named alkaloids. Probably a similar reaction would take place with other alkaloids, but of these Dr. Fuller has no experience.

Another question of practical importance arises out of this observation: May not a dilute solution of iodine be advantageously given as an antidote in cases of poisoning by strychnine? Neither in Dr. Taylor's work on poisons nor in any other work which Dr. Fuller has had the opportunity of consulting, does he find the slightest reference to iodine as an antidote to strychnine; but if a drachm of the tincture of iodine of the Pharmacopœia suffices to precipitate and render insoluble no less than a grain and a half of strychnine (three drachms of the liquor strychniæ), it is difficult to resist the conclusion that, if cautiously administered, iodine may prove a valuable and efficient remedy in cases of poisoning by strychnine.

Art. 132.—*On Strychnia Hypodermically Administered in Paralytic Affections.*

By Charles Hunter, late Surgeon to the Royal Pimlico Dispensary.

(*British and Foreign Med.-Chir. Review*, April.)

In this communication the author points out the advantages and disadvantages of administering strychnia by the cellular tissue; and indicates, as far as his practical experience of the use of that alkaloid has gone, what difference of action may be expected when it is subcutaneously given, from its usual effects when given by the mouth. He details a few cases of paralysis in which he has injected strychnine with benefit; at the same time he remarks that one must not look for the astonishing or suddenly beneficial results which seem to, and do at times, attend the injection of anodynes in cases of *pain*, of delirium, &c.

The chief advantages to be derived from the hypodermic use of strychnia are, Mr. Hunter says:—

"1. *As a therapeutic test*, for three or four injections will almost always show if strychnia has any power or not over that particular palsy. If they have no effect it is almost useless to continue their employment.

"2. *It is economical, both as regards amount of* (*a*) *alkaloid to be used, and* (*b*) *time required for it to affect the system.*

"(*a*) There is a great saving of the *amount of strychnia* required by this means over the stomachic employment of the same drug. The saving may be put at five-sixths of the amount which would be given by the mouth. For, as far as my observation goes, the $\frac{1}{30}$th of a grain, injected every other day for thirty times, will consume just one grain of strychnia in sixty days: now if the somewhat ordinary dose of $\frac{1}{20}$th of a grain is given twice a day—and some physicians order the $\frac{1}{16}$th and even the $\frac{1}{12}$th of a grain for a dose—it is evident that in the sixty days as much as six grains of strychnia are taken into the stomach. But in cases of paralysis where its continuance seems necessary, I do not as a rule inject the strychnia more often than twice a week, so that the saving is nine rather than six times less than the amount which experience shows

us has to be given by the mouth for a reasonable amount of benefit to ensue.

"Nor need this saving of material be considered remarkable nor the results singular. The experience of many medical men who have largely employed quinine injections in ague and fevers in India, Italy, and the West Indies, is quite in accordance with my results with strychnia. Dr. Moore, of the Bombay Medical Service, thinks four or five grains of quinine under the skin are equal to five or six times that amount taken by the mouth; and this opinion is confirmed by Drs. Chasseaud and M'Craith of Smyrna, by Dr. Desvigne in France, and more recently by Dr. Huggins and his colleague at San Fernando in Trinidad.

"(*b*) In addition to the ultimate tonic effects of the strychnia being more quickly gained, and from a smaller amount of material, we have also manifested, by its introduction into the cellular tissue, certain phenomena indicative of the immediate or direct primary action of the agent upon the system. These are, firstly, a general warmth or glow of the cutaneous surface. This warmth is experienced by nearly every patient, especially those benefited by the injection.* It is most felt in the paralysed limbs and down the spine, and at times making the patient 'quite hot all over.' This sensation lasts a few hours, according to the strength of the dose. Secondly, a sensation of lightness and freedom in, and a removal of the 'heavy-weight' sensation of the paralysed part. The leg often feels 'light as a cork;' and thirdly, increased temporary power, which also generally begins in about twenty minutes, and lasts for perhaps some hours.

"*As regards the jerking of the muscles.*—This sympton of the action of strychnia appears to me to be of less frequent occurrence than when strychnia is given with a similar object in view for a lengthened period by the stomach. It seems practically to be the case, as might theoretically be conceived, that the primary tonic effects—namely, greater power and improved nervous sensibility—should follow the small strychnine injections, sooner and more effectually than after the system has, by slow degrees, absorbed enough strychnia which has been administered stomachically, and the quantity of which so given has been perhaps three or four times as much as has really been necessary. When, on the other hand, muscular 'twitchings,' spasms, or cramp have accompanied the palsy or numbness previous to the employment of the strychnine injection, those irregular muscular movements seem very quickly to yield to the tonic influence of the puncture, as in case 7, and in a bricklayer now under treatment.

"Thus far then in favour of the hypodermic injection of this alkaloid. What, on the other hand, are the disadvantages of this method?

"That great care is necessary lest too large a quantity should be in-

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* Diaphoresis is a more frequent effect from the injected strychnia, especially of the paralysed side of the body. The warm glow is always observed by patients to be entirely or *chiefly* in those parts supplied by the paralysed nerves, even when the strychnia is injected into remote healthy parts.

jected of this agent, I need not point out; far better therefore always is it to inject a minimum than a maximum dose, say from the $\frac{1}{60}$th to the $\frac{1}{80}$th rather than from the $\frac{1}{30}$th to the $\frac{1}{20}$th. As a rule, however, the $\frac{1}{30}$th of a grain will suit most cases in which a tonic effect is desired upon a paralysed muscle or nerve.

"I think it as well to mention that in two out of about twenty-five patients in whom I have injected strychnia, a carbuncular state of the nose, or rather a collection of small boils, arose. It is questionable to what extent, or whether or not the strychina injection is to be blamed. We know that belladonna will at times produce a rose-rash, and this is especially the case with atropia, its alkaloid, when injected.

"Both of the patients who had the boils produced about the nose, had had a good many injections; one was the sailor with the gun-shot wound in the spine, whose case is mentioned above; and the other was an Indian officer who had for years suffered from neuralgia and muscular prostration, consequent on, according to Brown-Séquard, 'congestion of the spinal marrow.'

"I have seen no ill-results from the injection of strychnia such as have been described as following the injection of the acetate or sulphate of quinine. Those salts seem, in many cases, to have set up severe irritation, and subsequent sloughing of the cellular tissue, and even tetanus has been attributed in two cases to the injection of that alkaloid. Strychnia is, however, innocuous to the cellular tissue, and scarcely ever causes the least smarting, burning, or other local sign of irritation when injected. Nor would quinine, as far as my experience goes, if some more basic salt than those above alluded to was used."

Art. 133.—*Ergot and Coca in Paraplegia.*

By Dr. T. Verardini.

(*Journal de Brux.*, xliv.)

Dr. Verardini, in a communication to the Academy of Sciences of Bologna, details the action of ergot and coca-leaves in some cases of paraplegia in which other remedies had been employed without benefit. He gave an infusion made from two to four grammes, or even more, of coca-leaves, with from one to two grammes of ergot, in twenty-four hours, and by the persistent use of the remedy he observed a nutritive and stimulating action, not only upon the heart, but also upon the nerve centres.

Art. 134.—*Phosphorus in the Treatment of Paralysis.*

Under the care of M. Delpech at the Hôpital Necker.

(*The Lancet*, February 22.)

M. Delpech has obtained the best results from the employment of phosphorus in paralysis. There are at present three cases in his wards

submitted to this mode of treatment. In one case the disease had been brought on by the prolonged employment of sulphide of carbon; in another by the effects of cold; and in the third, by an attack of apoplexy. The phosphorus acted at first as an aphrodisiac, producing erections, and thus manifested its peculiar action on the genital organs; mobility and sensibility were then favourably modified without any apparent inconvenience attributable to the employment of the remedy.

Art. 135.—*Protoxide of Nitrogen as an Anæsthetic.*

(*Medical Times and Gazette*, April 18, and *Lancet*, April 18.)

Nitrous oxide, or protoxide of nitrogen (N_2O)—the introduction of which as an anæsthetic agent has recently excited so much interest in London—is a gas having exactly the same specific gravity as carbonic anhydride (carbonic acid CO_2)—1·52 — and of course the same relative weight. It may be prepared in a variety of ways —cheaply by the action of zinc on nitric acid, strengthened by sulphuric acid; more expensively, but in a purer form, by heating the nitrate of ammonia, although even in this way the gas may be contaminated by the presence of other oxygen compounds of nitrogen, or by chlorine compounds resulting from inequalities of temperature during the process of preparation or impurities in the salt. Its taste is pleasantly sweetish, and its chemical properties are almost identical, although somewhat lower in degree, with those of oxygen. One notable exception is its solubility in cold water, which is much greater than that of oxygen, for hot water does not take up so much of the gas as that at a low temperature. These facts are necessary to a true understanding of its effects.

To prepare protoxide of nitrogen for inhalation then, great care must be taken to preserve its purity; consequently it becomes important to maintain as nearly as possible an equal temperature during the process of its manufacture, and should any nitric oxide be formed, to deoxidize or remove it, which is best done by a solution of ferrous sulphate (sulphate of the protoxide of iron), and washing in water. From what we have said, this washing in water, and keeping the gas for any length of time over water, must be attended with great loss, as much of the gas is thereby absorbed. This may be to a great extent avoided by employing water at an elevated temperature, or a strong solution of common salt for the same purpose. When about to be inhaled as an anæsthetic, great care must be taken that no oxygen or air become mixed with the protoxide; otherwise the peculiar effects described by Sir Humphry Davy are observed instead of anæsthesia.

Respecting the mode of action of the nitrous oxide, Dr. Richardson explained, at a meeting of the Medical Society of London, on the 18th of April, that it was not, in the true sense, the agent that caused the insensibility. It acted indirectly, and the immediate stupefier was really carbonic acid. In fact, nitrous oxide is an asphyxiating agent. There are two explanations of this. It may be that the nitrous oxide quickens the oxidation of blood, and so causes accumulation of carbonic acid in

the blood; or it may be—and this is most probable—that it acts by checking the outward diffusion of carbonic acid. The vapour density of nitrous oxide and of carbonic acid is the same—namely, 22, taking hydrogen as unity; and as diffusion of gases into the blood and out of it is governed by the same laws as in ordinary diffusion, to make an animal breathe nitrous oxide is virtually equivalent to making it breathe carbonic acid itself, the diffusion of carbonic being so determinately impeded. The living phenomena were also in character: the arterial blood was rendered venous by nitrous oxide; the animal temperature fell; the skin became livid. And although these symptoms might be induced many times without actually destroying life, they could not be sustained for any length of time without certain disaster.

It was painful, Dr. Richardson remarked, to see the childish excitement with which nitrous oxide and its effects had recently been dwelt on. The gas had been treated as an unknown, wonderful, and perfectly harmless agent; whereas in simple fact it was one of the best known, least wonderful, and most dangerous of all the substances that had been applied for the production of general anæsthesia. No substance had been physiologically studied with greater scientific zeal or more rigid accuracy; and no substance had been more deservedly given up as unfit and unsafe for use. It had caused death in the human subject, and on animals it was so fatal that, with the utmost delicacy in its use, it was a critical task thoroughly to narcotize an animal with the gas without actually destroying life. In some cases also animals died after recovering from the insensibility.

Art. 136.—*On Bichloride of Methylene.*

By Benjamin W. Richardson, M.D., F.R.S.

(*Medical Times and Gazette,* December 28, 1867.)

In speaking of the action of this new anæsthetic on the human subject, Dr. Richardson said, in one of his highly interesting and most instructive lectures, that he had administered the bichloride for the performance of nine capital operations. In one case the insensibility was sustained for an hour and seven minutes; in no case was the insensibility less than thirty-five minutes. In all there was a brief first and second stage, a rapidly developed third stage, and a very prolonged and deep anæsthesia. The same results have been obtained by Mr. Peter Marshall, one of the earliest students and practitioners in anæsthesia, and by Dr. Junker.

In one case only was vomiting a symptom during the anæsthetic condition, and in that case the vomiting was not, Dr. Richardson thinks, strictly attributable to the narcotic; it was also very slight, a single effort with eructation causing the loss of about a tablespoonful of fluid from the stomach.

The prolonged anæsthesia after free inhalation of the bichloride of methylene is a striking feature in its action, and has, Dr. Richardson understands, been a cause of some anxiety. There is no occasion for anxiety from, nor for interference with, this sleep; it passes off quite naturally if time be allowed, and what is more, it passes off leaving no

headache and no feeling of depression behind. In most cases of operation, the prolonged anæsthesia is indeed of advantage, the sleep being so quiet, so undisturbed, so gentle, and so easily sustained by the briefest renewal of the administration of the vapour.

Dr. Richardson has no hesitation in stating that bichloride of methylene as a general anæsthetic is at least as safe as chloroform, and that it possesses certain advantages of its own which give it a better position amongst anæsthetics than chloroform. The only obstacle to its success is the difficulty of its manufacture and its consequent greater cost than chloroform; but he should trust that in time this obstacle will be overcome. Administered internally by the stomach in doses of from ten to twenty minims, bichloride of methylene is a good anodyne.

Art. 137.—*On Bichloride of Methylene.*

By MM. Tourdes and Hepp, of Strasbourg.

(*British Medical Journal*, April 25.)

M. Tourdes and M. Hepp, of Strasbourg, have been experimenting on the use of the bichloride of methylene, and publish, in the *Gazette Médicale de Strasbourg* of February 15th, the following epitome of the facts arrived at. 1. The bichloride of methylene has an agreeable unirritating smell, like that of chloroform, but less soft, and weaker. It is inflammable, but less so than amylene or ether. The flame is spontaneously extinguished by the gases produced during its combustion. The breath of the anæsthetized animal did not ignite in contact with a lighted candle, even after injection into the veins. Bichloride of methylene produces rapid and complete anæsthesia. The dose necessary is rather larger than is required of chloroform. Anæsthesia is produced by a period of excitement, the duration of which varies according to the method of inhalation. The anæsthetic sleep sometimes lasts for several minutes without the administration of a second dose; but this sleep by a single impulsion is shorter than occurs when chloroform is given. The anæsthesia may be prolonged without danger by inhalations renewed at intervals of three or four minutes. The awaking is tolerably quick, more so than with chloroform, less than with amylene or ether. Complete consciousness is frequently preceded by agitation, uneasiness, muscular trembling, and weakness of the posterior extremities, more especially when the anæsthesia has been repeated and prolonged. Death, as with chloroform, is quickly caused by the continuance of large inhalations after anæsthesia has been produced, and appears to be the result of asphyxia suddenly terminating in syncope. Coagulation of the blood in the heart has been observed. Bichloride of methylene injected into an artery, instantaneously produces stiffness of the muscles, like chloroform; after injections of amylene and ether, the muscles remain supple. The bichloride of methylene produced the same results as chloroform on a man who was subjected to its influence from nine to ten minutes; but the dose administered was larger in proportion. The period of excitement was rather long; the awakening quick, and not

followed by any discomfort. MM. Tourdes and Hepp declare from these observations that the action of bichloride of methylene is analogous to that of chloroform, but rather less active. The rapidity of the anæsthesia, the duration of the sleep, and the nature of the death produced, also place it in the same category. The stiffness of the muscles caused by the injection of the bichloride into the arteries, is another analogous point. Further experience will teach if any difference exists between the consecutive effects. The conclusion seems to be, that bichloride of methylene takes a place amongst powerful anæsthetics, and from the strength of its action is certainly equal, and perhaps rather superior to chloroform. It is certainly more active than amylene or ether, and is a useful anæsthetic in addition to those already known to science; but MM. Tourdes and Hepp have not found in it any particular merits giving it any advantage over chloroform. It is inflammable, and more volatile than the above-mentioned substances, which is a decided inconvenience; it also causes death. It may, they say, be found useful in cases where a slighter degree of anæsthesia is necessary; but they have not found anything sufficiently striking in the properties of the bichloride of methylene to give it the preference over chloroform.

Art. 138.—*On Iodide of Methyl.*

By Benjamin Richardson, M.D., F.R.S.

(*Medical Press and Circular*, April 15.)

At a meeting of the Medical Society of London, held March 30th, Dr. Richardson, the President, exhibited a specimen of iodide of methyl, which he said was the most energetic of all known iodine compounds, and he thought promised to prove of the greatest use in practical medicine. The iodide was first experimented with physiologically by himself, in the course of last year, and was reported on by him to the meeting of the British Association at Dundee. It is made by distilling wood spirit with iodine and phosphorus; it boils at 110° Fahr., and its composition is CH_3I. It is a very heavy fluid, its specific gravity being 2199, its vapour density is 71. In the concentrated form the fluid is rather easily decomposed, free iodine being given off. Methyl can be administered by inhalation, and so given it produces general anæsthesia; but if it is undergoing change, the free iodine causes lachrymation, salivation, and excessive bronchial secretion; in an experiment, an animal died from the artificial bronchitis thus induced. The iodide of methyl can also be given by the mouth, one minim being equal to three grains of iodide of potassium; of all the iodides, it possesses the greatest activity of action on the body, it neutralizes organic poisons and may be expected to be of service in tertiary syphilis specially. At his, the President's, request the iodide of methyl was now being tried in some cases of cancer at the Middlesex Hospital by Mr. Nunn, but sufficient time had not elapsed to report results. The facts, when sufficiently ascertained, would be brought before the Society—the iodide of methyl also produced new compounds with some organic bodies, such as nicotine and

other alkaloids, and the author had endeavoured to make it applicable as an antidote. On this principle, iodide of methyl should be prescribed in a solution of mere methylic alcohol.

The President concluded by referring to the antidotal effects of iodide of methyl on the alkaloidal bodies, such as strychnine; and to the substitution principle in therapeutical research.

Art. 139.—*Thermometrical Observations.*

By T. J. Maclagan, M.D.

(*Edinburgh Medical Journal*, January, 1868.)

Dr. Maclagan's object in this paper is to try to summarize the results of his own observations, and to give the practical conclusions which he has been led to draw, after a large number of observations made on all sorts of cases. He premises that the temperature should not be looked to alone, but should be taken in conjunction with all the other symptoms.

1. In the formation of a diagnosis, the thermometer gives, at an early stage of the illness, no evidence sufficient to enable us to distinguish typhus from other forms of continued fever.

2. As an aid to the formation of a satisfactory prognosis, and as a guide to a proper line of treatment, its value varies in different cases.

3. It is of most value in those in which there is likely to be danger from the head-symptoms: a high temperature during the first week being the earliest indication of danger from that source.

4. A morning temperature of 104°, or an evening temperature of 105°, during the first week, and a morning range of 103°·8 with an evening one of 104°·5, after that time, should teach us to treat the case as one likely to be endangered by the severity of the head-affection.

5. The highest range occurs in cases which prove fatal by acute head-symptoms, and in which there is partial or complete suppression of urine.

6. Irregularities and abnormalities in the range often characterize the course of severe cases, and are of specially unfavourable import when occurring in those in which a high temperature has been noted at the end of the first week.

7. Equability of the temperature is one of the usual characteristics of a mild case.

8. A rise at midnight, and a *continued* absence of a morning fall, are (when the range is high) still further indications of dangerous nervous symptoms, though their absence does not denote the contrary.

9. When probable failure of the heart's action is the source of anxiety, the thermometer is of no value in enabling us to estimate the exact amount of the danger; the state of the heart, as revealed by a stethoscopic examination of that organ, being the best guide to a knowledge of the patient's condition.

10. When pulmonary complications exist to so great an extent as to threaten death by asphyxia, the thermometer conveys no reliable information regarding the amount of the risk, this being best estimated by attention to the general state of the patient, and by the stethoscopic examination of the chest.

11. In cases in which (either from greatly enfeebled cardiac action, or from pulmonary obstruction causing deficient oxygenation of the blood) the patient gets into a state of great depression, the temperature may fall to, or even below, the normal standard, indicating not a commencing defervescence, but an extreme degree of depression, the exact extent of which, and the danger to be apprehended from it, are best estimated by a reference to the causes which produced it.

12. In ordinary uncomplicated cases which go on to a favourable termination, the temperature generally attains its maximum about the time of development of the eruption.

13. In consequence of the non-liability of the range of the temperature to be affected by various causes which have a disturbing influence on the pulse and respirations, the thermometer is the most generally accurate means of estimating the amount of febrile disturbance which exists.

14. As an indication of commencing defervescence, a fall of the temperature is earlier and more reliable than any other single sign of improvement.

15. The effect on the temperature of complications springing up during the course of the fever varies according to the nature of the secondary affection, and the time at which it appears.

16. Complications coming on during convalescence seem to act, in this respect, just as if no febrile attack had preceded them.

Dr. Maclagan adds that the chief use of the thermometer in practice is to enable us, during the first week, to recognise and pick out with greater precision those cases in which the head-symptoms are likely to run high; later on in the case, when all the symptoms are fully developed, its chief use is to give an early indication of commencing defervescence. It must also be borne in mind that severe head-symptoms indicate a probably protracted case; and that in elderly persons, and in young people of weak constitution, there is likely, towards the end of the second week, to be superadded to the other risks the additional one of enfeebled cardiac action, requiring its own treatment, but not interfering with that called for by the head-symptoms.

Art. 140.—*Remarks on the Use of the Thermometer in Disease.*

By John Southey Warter, M.D. Edinburgh.

(*St. Bartholomew's Hospital Reports*, vol. ii., and *British and Foreign Med.-Chir. Review*, January, 1868.)

In this paper Dr. Warter shows the value of the thermometrical observation in the diagnosis of disease, the instrument giving informa-

tion which cannot be obtained by other means. The paper is illustrated by a diagram showing the curves of temperature in different diseases, the range being from 94° to 105°. In the diagnosis of typhoid and typhus fevers from other diseases, the thermometer affords valuable aid, and the elevation of temperature in what appears a simple diarrhœa, may announce an attack of typhoid; and again, the maintenance of a low temperature in a case exhibiting symptoms resembling fever may prove the absence of typhus. Dr. Warter also thinks that the difference of thermometric indications is one of the proofs of the non-identity of typhus and typhoid fevers. In active tuberculosis there is always some elevation of temperature, and the same is the case in pneumonia and acute bronchitis, but in abdominal diseases the thermometer gives no special information. In hysteria the temperature is not raised above the natural standard, and from this circumstance Dr. Warter thinks that valuable information may be obtained in distinguishing that affection from several inflammatory and feverish maladies which in some respects resemble it.

Art. 141.—*Ozonized Ether as a Deodorizer.*

(*Pharmaceutical Journal*, February.)

Dr. Day, in a communication to the *Medical Press and Circular* of January 9th, on the properties of ozone, and its use as a test for blood, recommends ozonized ether, mixed with essential oils, for destroying the products of decaying organic matter. The following is the plan:—"In an ordinary case I suspend a piece of sponge or of flannel in the closet, and occasionally sprinkle over it a few drops of ozonized ether, combined with about a sixth or an eighth of some ozonized essential oil, oil of lavender, or oil of cassia, or juniper will answer as well." The plan has been tried in the closets of a large public school with success.

Art. 142.—*On Disinfectants.*

By M. Bonjean.

(*The Lancet*, April 4.)

M. Bonjean, an eminent pharmacien of Chambéry (Savoy), has published a book on the means of preventing cholera, &c. Of course his system rests on the use of disinfectants, among which he mentions: charcoal, well pounded, two pounds; sulphate of iron, one pound. Two or three tablespoonfuls should be placed in the night vessels used by the sick. The author contends not only that carbolic acid is overrated, but that its virtues are *nil*. This should be noted. Be this as it may, it is perfectly true that fashion and crying-up have an enormous deal to do with the use of disinfectants. We should not immediately a new one is proposed, forget chloride of zinc, manganate of potash, charcoal, and green vitriol.

Art. 143.—*On Disinfectants.*

By William Procter, M.D., F.C.S.

(*Medical Times and Gazette,* March 14 and 21.)

In this paper Dr. Procter describes the general character and properties of the disinfectants in ordinary use. The attempt to obtain a disinfectant of general application, and capable of fulfilling all indications, must be attended, he says, with disappointment. In the chambers of the sick, in addition to the air vitiated by respiration, there are exhalations from the bodies and the effluvia of excretions; here a disinfectant of a diffusive character, combined with rapid action, will be selected. The oxidizing fulfil these indications, and chlorine, used with care and caution and in graduated quantities, is of the highest value, and may often advantageously be replaced by hypochlorite of lime. Waiving the objections to which, as a dense, readily condensable vapour it is open, iodine seems in some respects to be superior to chlorine; it is manageable, and can be volatilized to any required degree by regulation of the temperature to which it is submitted. By the simple exposure of iodine in a plate or saucer, in the majority of cases, a sufficient quantity of the vapour is diffused to keep the air of the chamber pure. The evolution of ozone by the methods of Drs. Barker and Richardson is also very effective, but scarcely so simple or readily applied as chlorine or iodine. Mr. Condy proposes to distribute his fluid through the air mixed with the vapour of water, a plan of which Dr. Procter has no experience, and which is apparently open to the objection of an undue diffusion of moisture through the chamber.

In the disinfection of uninhabited places, the peculiar characters of sulphurous acid render it especially applicable and preferable to nitrous fumes. The rooms should be closed, a quantity of sulphur burnt in various places, and the process followed by whitewashing. To remove infection from bedding or wearing apparel, the application of dry heat at a temperature between 200° and 300° Fahr. for a sufficiently long period is perfect and complete. When liquid matter has to be dealt with, reliance will be placed upon the antiseptic and fixative classes to act upon that which may become noxious. For the disinfection of urinals, drains, middens, or sewers, carbolic acid or carbolate of lime takes precedence of others, and produces a substance of high agricultural value, by the retention of the ammonia and phosphates. For alvine discharges carbolic acid is applicable, but on account of the odour, and for other reasons, the sulphate of iron, nitrate of lead (which Dr. Procter prefers), chloride of zinc, or chloride of iron, may with advantage be substituted for it. These latter are especially valuable in removing odours in the rooms of the dead, placed about the corpse.

There are two classes of cases in which disinfectants are needed.

(1.) When the air is impure from causes not under our control, as epidemics or zymotic disease. (2.) When such is the case by causes under our control—such as want of cleanliness, local sources of impurity, &c. In the first case we employ gaseous disinfectants to

destroy infection; and in the second, liquid or solid disinfectants, to prevent the infection passing into the air.

But disinfectants, valuable as they may be properly and judiciously applied, are no substitute for ventilation and cleanliness; in fact, if no other preventives are used, they may be worse than useless, by leading to a confidence which the experience of their employment does not justify. The atmosphere is the great purifier of nature, and an abundant and a continuous supply of air is needed in the chamber or locality of disease to effect oxidation, diffusion, and therefore dilution, or removal of noxious matter. Such, carried out assiduously, is the most certain, if not the only certain means of security against the dangers of infection and disease.

Art. 144.—*The Preservation of Syrup of Iodide of Iron.*

By F. Baden Benger.

(*Pharmaceutical Journal*, December, 1867.)

In a letter to the editor of the *Pharmaceutical Journal*, Mr. Benger, of Manchester, says:—Four or five years ago, when experimenting on the preservation of syrup of iodide of iron, he tried the plan suggested by Mr. Tilden, viz., to exclude the air by means of a superstratum of oil, but it failed to answer the purpose, and for some years he has prepared the syrup extemporaneously as follows:—

A solution of iodide of iron, containing 414 grains to the fluid ounce, is sealed up hot in stoppered bottles of various sizes from two drachms upwards: and by adding 40 minims of this solution to each ounce of simple syrup when required, a never-varying and nearly colourless preparation is obtained.

The solution keeps perfectly well; the advantage of using bottles of various capacity being that there is no loss by spoiling, when one is opened,—each containing only the quantity to be used at once.

PART II.—SURGERY.

SECT. I.—GENERAL QUESTIONS IN SURGERY.

Art. 145.—*On Inflammation and Suppuration.*

By Dr. Cohnheim.

(*Virchow's Archiv*, 1867; *Archives Générales de Médecine*, No. 3, 1868.)

Dr. Cohnheim, in the course of some researches upon suppuration in the cornea, injected aniline blue into the vascular system of the frog. The coloured granules penetrated the white corpuscles of the blood, and became fixed there; a fact agreeing with the observations of Max-Schultze on amœbæ and cellular elements without an enveloping membrane. It happened, however, in one frog, whose white corpuscles were thus stained, that the pus globules infiltrating the cornea after irritation also presented in their interior small granules of the colouring agent. Dr. Cohnheim concludes from this phenomenon that these pus globules were nothing more than the white corpuscles of the blood set free from their containing vessels, and gradually infiltrated along the meshes of the corneal tissue.

For the purpose of strengthening this view, Dr. Cohnheim set about observing directly how the white corpuscles of the blood escape from the interior of the vessels. As it is impossible to study the cornea microscopically without detaching it from the animal, he sought to investigate this phenomenon in some transparent part, which still retained by its vascular connexions could be spread out upon the stage of the microscope. The mesentery of the frog was selected on account of these qualities, and also because the peritoneum is probably irritated more readily than any other organ.

Dr. Cohnheim took a male frog, so as not to be troubled by the presence of ova, rendered it immovable by curare, and after having incised the abdomen, brought outwards a knuckle of intestine. In this experiment the atmospheric air acted as the irritant.

The first phenomenon observed under these conditions is a dilatation of the small arteries, the calibre of which is nearly doubled. The veins dilate less rapidly; but it is in these vessels that the most interesting phenomena commence. The white corpuscles, which at first are few in number circulating along the walls of the vessels, soon accumulate, and in the course of three or four hours become so abundant that the internal surface of the veins is in contact with a continuous lining of

white corpuscles. In this stage some of these elements seem to elevate the corresponding portion of the wall of the vessel, so as to form a kind of bud, which becomes more and more marked, and is finally stalked; the pedicle is afterwards broken, and the corpuscle then passes into the surrounding connective tissue. Some red corpuscles are retained among the white corpuscles, and may be set free from the vein by an analogous process, with this difference, that they apparently pass through an orifice. In consequence of this, a considerable constriction is sometimes exerted at one point of the globule, which may be divided in such a manner that one of its portions is set completely free without the vessel, whilst the other remains enclosed within it. Red corpuscles escape in this way even from the veins. It is in the capillaries particularly that this phenomenon is observed on a large scale.

Dr. Cohnheim concludes that the formation of pus always proceeds from the issue of white corpuscles through the wall of vessels, and according to his views multiplication of the cellular elements of tissues plays merely an accessory part in inflammatory processes.

Art. 146.—*Treatment of Wounds.*

By Dr. Victor Revillout.

(*Gazette des Hôpitaux*, No. 141, December, 1867; and *Edinburgh Medical Journal*, March.)

The following brief extracts from a leading article in the *Gazette des Hôpitaux*, from the pen of Dr. Victor Revillout, will be read with interest at this time, when so much is being done with the view of facilitating the union of wounds, and avoiding the dangers of suppuration. He contrasts the principles and methods of Guérin, Maisonneuve, and Lister. "Guérin wishes to prevent, as far as possible, the contact of air, and thus to place open wounds in similar conditions to subcutaneous ones. Oxygen is, in his eyes, the principal cause of suppurative inflammation; and by excluding it, he hopes more easily to obtain immediate union."—[He endeavours to obtain this end by fixing over a stump a nightcap of india-rubber, which communicates by a tube with an air-pump; the air being thus exhausted from the bag, it is retained in position by the weight of the atmosphere, excludes air from the wound, and maintains an equable compression.]

"Maisonneuve, on the other hand, is not afraid of oxygen, but *he* is afraid of dead fluids. His conclusions are:—1. That the so numerous and varied febrile accidents which complicate most wounds, and constitute the principal danger of surgical operations, are always the result of *a poisoning*. 2. That liquids exuding from the surface of wounds die when in contact with the air; that they then putrefy and become dangerous poisons. 3. That, could we prevent the liquids from putrefying on the surface of the wounds, then the greatest surgical operations, even amputation of limbs, could be performed without danger."

In M. Guérin's apparatus, Maisonneuve believes that he has discovered a simple and practical means of fulfilling his indication. By

exhausting the air, it removes the fluids effused on the wound. The surfaces having been bathed in alcohol, are brought together with strips of plaster, which do not prevent the escape of serum, &c.; then the whole is covered with a bandage soaked in some aromatic and anti-putrid fluid, such as tincture of arnica, and then the caoutchouc bag is put on.

Lister, like M. Maisonneuve, claims the honour of having been the first to discover a principle. He does not pretend to have been the first to use phenic acid (carbolic acid), but to have been the first to use it with method and with a clear design. Mr. Lister does not trouble himself about the "oxydation of wounds," like M. Guérin, nor into the "death of confined fluids," like M. Maisonneuve. His fundamental theory is that of germs—that is to say, he, following the opinion of M. Pasteur, attributes to microscopic organic germs floating in the air all the fermentations and decompositions of contained fluids. To destroy these he uses carbolic acid; he endeavours to render all his wounds "sub-carbolic wounds." This is another kind of occlusion, directed not against oxygen, but against the organic dust of the atmosphere.

Art. 147.—*The Air Treatment of Wounds.*

By M. Boisson.

(*Canada Medical Journal*, November, 1867.)

M. Boisson has introduced a method of treating superficial wounds by a jet of air from the common bellows, immediately forming a dried film over the exposed flesh, beneath which healing is greatly facilitated and other obvious advantages secured. Burns which have removed the skin may be treated advantageously in this way.

Art. 148.—*On the Differential Diagnosis between Rodent Cancer and Lupus.*

By Charles H. Moore, F.R.C.S., Surgeon to the Middlesex Hospital.

(*Rodent Cancer; its Nature and Treatment.*)

"The distinction of rodent cancer and lupus is shown both in the persons whom they attack, and in the characters of the local ailment. Lupus occurs in the young adult, rodent cancer in the decline of life. Lupus is exclusively a strumous disease; rodent cancer originates in persons previously healthy. Whilst both diseases arise in the skin, lupus is peculiar to thin and fair integument, rodent cancer to skin of ordinary firmness and colour. The aspect of the two diseases is different at their commencement in the skin, and not less so in their later progress. Lupus begins as a pink, low, tuberculous elevation of the

skin; rodent cancer has a firm, uncoloured nodule in it. In lupus there may be more than one tubercle, and the intervening skin may be healthy, or pink, or scaly, or œdematous; the pimple of rodent cancer is solitary. The surface of lupus first scales or peels before it breaks; the rodent cancer excoriates, and then scales or bleeds. Both ulcerate; the lupus at one or at several of its tubercles, the rodent cancer by the mere deepening of its central scabbed excoriation. Lupus may cicatrize and cease at any time; rodent cancer proceeds with at most but a temporary and partial healing near its edge. When both are far advanced the lupus has a superficial appearance, though it have destroyed the whole nose: rodent is precipitous and excavated. Lupus possesses, rodent cancer is without any contractility. The margin of lupus, though thickened, is low, and bevelled both outwards by œdema, and inwards towards the shallow ulceration; that of rodent cancer is firm, and is commonly in both directions abrupt. The ulceration of lupus is smooth, and may be multiple, being divided by scars; that of rodent is single and ragged. In the vicinity of lupus there are separate, rather soft tubercles, and an area of pink, scaly integument; around the rodent disease the skin is healthy; and if a separate nodule do exist, it is compact, firm, and in great part subcutaneous. Lupus is not invariably limited to the face, but may at the same time appear on the hands or elsewhere; rodent cancer is eminently local and centrifugal. The most virulent lupus may, though it rarely does, cause death; rodent disease is always eventually fatal. Like an old issue, or a chronic ulcer, lupus is liable after many years to a rapid growth of epithelial cancer in its ulcers and scars; the march of rodent cancer may be accelerated towards the end, but its character is not thereby altered."

Art. 149.—*On the Pathology of Cancer.*

By Professor N. Friedreich.

(*Virchow's Archiv*, No. xxxvi.; *Vierteljahrschrift für die Praktische Heilkunde*, 1868.)

The subject of this contribution was a female servant, thirty-seven years of age, who presented during her second pregnancy all the symptoms of a general cancerous affection. Labour commenced between the two and three weeks before the normal termination of pregnancy; it was perfected easily and rapidly, but the woman died nine days afterwards. The post-mortem examination presented schirrous tubercles in the liver, and also metastatic deposits in the heart, thyroid gland, skin, uterus, bones, intestinal canal, lymph, and mammary glands, and on the pleura and peritoneum; there was also cancerous infiltration in the bronchi and pulmonary vessels. The infant died two days after its birth with symptoms of icterus and sclerosis. On dissection a tumour was found over the left knee and imbedded in the subcutaneous connective tissue above the patella; this on microscopic examination presented precisely the same structure as the morbid growths found in the body of the

mother. No pathological changes could be discovered either in the umbilical cord or the placenta.

This case is remarkable; firstly, for the extremely active growth of new formations during pregnancy, since quiescence of morbid growth during pregnancy is generally considered to be the rule, or at least it is so with regard to tuberculosis; secondly, for the rare occurrence of primary cancerous formations in the liver, and the extreme rarity also of metastatic tumours in the thyroid gland, uterus, and mammary glands, whilst those very organs which in most instances are secondarily affected, the lungs and kidneys for instance, were found quite free from deposits. As the idea of propagation of the cancerous tubercles by the veins and lymph vessels cannot be entertained, one must accept as an explanation of the dissemination, the view that some noxious juice from the primary tumour was mixed with the blood of the hepatic vein, and so infecting the whole mass of the circulating fluid, set up by remote irritation, a special local disposition to the formation of metastatic cancerous tubercles of the tissues and organs to which it was carried. The increased turgescence and active and energetic tissue changes which take place in the thyroid gland, uterus, and mammary glands during pregnancy, seem in this case to have produced a local disposition in these organs to the development of cancerous tumours. The third remarkable point in connexion with this case was the presence of a metastatic cancerous tumour in the fœtus, and with at the same time the absence of cancerous new growths from the uterine insertion of the placenta, from the placenta itself, and from the umbilical cord. This fact gives a special support to the view just expressed on the dissemination and generalization of tumours, as it must be supposed that the noxious cancerous juice suspended in the blood of the mother set up, through the active interchange of the fœtal and maternal fluids in the placenta, an infection of the blood of the fœtus—a secondary fœtal cancerous dyscrasia; as a result of this infection, metastasis of cancer can be produced in the fœtus in the same way that fœtal syphilitic inflammations and gummata are produced when there is general syphilis in the mother.

The extreme rarity of metastatic cancer in the fœtus may be attributed, in the first place to the very great difficulty in the way of conception, and a complete development of the child when the mother is affected with general and advanced malignant disease; and secondly, to the very slight disposition that always exists in the fœtal tissues to the development of cancerous and other heteroplastic growths.

Friedreich reports also a case in which extensive cancerous disease with multiple metastatic deposits was associated with tuberculosis of the lungs and intestines; the latter affection was in an early stage, and had undoubtedly been developed after the cancer. The primary cancerous deposit existed in the left lung, and the metastatic growths in the heart, kidneys, suprarenal capsules, right lung, and pancreas; there was cancerous pleurisy on the right side. This case proves the probability of an association of cancer and tuberculosis in the same organ, particularly in the lungs, a fact which was doubted by Von Dittrich. The later development of tubercle in connexion with cancer might be attributed to the influence of the latter disease, which, like other analogous affections, causes during its progress great impairment

of the nutritive processes and weakness of the whole organism, and consequently an excessive loss of power in certain organs and tissues of the body, thus leading to the deposition and development of tubercle in a constitution previously disposed to phthisis.

Art. 150.—*Nature and Treatment of Anthrax.*

Under the care of Professor Richet, of the Hôpital La Pitié.

(*The Lancet*, May 16.)

M. Richet devoted one of his recent clinical lectures to the consideration of the above subject, *apropos* of a patient who was then in his wards. The case was that of a man, aged forty-seven, in miserable condition, and reduced to a state of complete emaciation through distress and starvation. Three tumours covered almost the whole of his back. One of them, as large as the open hand, occupied the situation between the scapular and the spine; another, of equal size, occupied nearly a corresponding situation on the opposite side; the third, even larger than the other two, extended over the lower part of the back. Only the last of these tumours showed signs of profound inflammation. It bulged slightly, was surrounded by a reddish circle, and the neighbouring tissue was somewhat tumefied.

M. Richet does not agree with those who divide anthraces into two kinds—the benign and the malignant. With the surgeon of La Pitié there is no such thing as malignant anthrax; because the idea of malignity involves that of contagion and inoculability, and this is not the case in so-called malignant anthrax. M. Richet simply divides these tumours into simple anthrax, and anthrax complicated with diffuse phlegmon. To this latter kind the term "malignant" is wrongly applied. It is far from being malignant, since it heals invariably when properly treated; whereas charbon, with which it has been compared, heals only when destroyed *in toto* and from the outset. With regard to the etiology of anthrax, M. Richet establishes a difference between those tumours which are observed on debilitated subjects (the common inmates of hospital wards), and those which develope in robust, well-nourished people. A third category of patients would comprise those affected with diabetes.

In considering the treatment of anthrax, M. Richet said he would distinguish three groups of surgeons: those who believe in the malignity of anthrax; those who do not; and those who retain a neutral position. The supporters of the first opinion are for removing the whole of the tumour. Now, according to M. Richet, a small anthrax may be excised; but how could we remove a vast tumour extending, for instance, over the whole lateral surface of the neck? Total ablation must be out of the question in these cases; and this mode of treatment M. Richet designates generally as *ferocious*. Another group of surgeons (those who remain neutral) institute a medium sort of treatment, which is yet very severe. First they incise the tumour,

and then they apply caustics. Some have recourse to perchloride of iron, others to tincture of iodine; others again, employ more energetic caustics, such as the actual cautery, &c. These cauterizations generally succeed, but they are invariably attended by most marked deformities. M. Richet condemns the use of the tincture of iodine or of perchloride of iron, as they paste the lips of the wound, and thus act as an impediment to the escape of pus. The third group of surgeons—those who are convinced that the disease is simply inflammatory—are not agreed with regard to the surgical means which are to be employed in anthrax. On the one hand may be mentioned M. Alphonse Guérin and the late Velpeau; on the other, M. Nélaton and M. Richet. M. Guérin, acting on the subcutaneous method, introduces the tenotome, and divides the tissue compressed by the anthrax. M. Richet condemns this practice. Velpeau used to make a crucial incision, and then a circular incision, carrying the bistoury around the tumour. M. Richet thinks that this method savours somewhat of total ablation, and therefore condemns it with the others. Nélaton's method is that which he considers best. It consists in splitting the tumour with several incisions which radiate like the petals of a flower. With regard to M. Richet's own practice the following are the rules which he lays down, and with which he concluded his lecture :—If the anthrax is of a simple kind, and is confined to the skin, the surgeon need not interfere. Such cases heal spontaneously. When the subcutaneous cellular tissue is involved, and passes thus into diffuse phlegmon, incisions must be made according to M. Nélaton's plan. The subcutaneous tissue must be carefully divided down to the muscles—which may be felt with the extremity of the finger through the wound. Hæmorrhage may be easily arrested by the application of some lint, and by slight compression. Poultices and tepid baths must then be employed. The general condition of the patient must not be neglected. If he is weak and emaciated, a restorative treatment must be adopted. If he is a robust man, he must be bled, purged, or even submitted to the administration of tartar emetic, &c. Pursuant to these principles, the Professor opened only one of the three tumours above described—namely, the lower one, which showed signs of profound inflammation.

Art. 151.—*Acute Glandular Inflammation in the Diagnosis of Veneral Diseases.*

By Professor Sigmund.

(*Wiener Med. Wochenschrift*, No. xiv., 1867; and *New York Medical Journal*, January.)

Professor Sigmund arrives at the following conclusions:

Primary syphilitic lesions are as a rule very seldom accompanied by acute glandular inflammation and abscess.

Acute inflammation and abscesses of the glands are developed in consequence of the skin and connective tissue being undermined by inflammatory and purulent deposits; when this condition of things

obtains in those places which are the seat of syphilitic papules, *i.e.*, primary lesions and indurations, inflammation and abscesses occur.

Contagious venereal ulcers which in the beginning of their course appear to be simple, may take on later a syphilitic character, and then acute inflammation and abscesses of the glands frequently occur.

The appearance of glandular inflammation and abscesses is not absolutely a distinctive sign of contagious venereal ulcers; and persons who are thus affected, cannot be considered as positively exempt from the development of syphilis.

The diagnosis of cicatrices occurring from previous glandular suppuration, and the exact nature of the disease which induced them, should be made with the greatest caution.

Art. 152.—*On the Use of Carbolic Acid in the Treatment of Primary Syphilis.*

By Holmes Coote, Esq., Surgeon to St. Bartholomew's Hospital, London.

(*British Medical Journal*, March 14.)

Mr. Coote calls attention to the treatment of syphilis in its primary forms by the local application of carbolic acid.

His first trial was on patients in the female venereal ward. All surgeons know the trouble and difficulty sometimes experienced in the removal of mucous tubercles, whose growth sometimes appears to be stimulated into additional activity by the employment of the usual caustics.

Case 1.—Emily K., aged twenty-one, general servant, had a discharge from the vagina, with numerous mucous tubercles on the labia and inside of the thighs. On January 17th, 1868, carbolic acid lotion (gr. v to the ounce of water) was ordered. On February 7th she was discharged, all the tubercles having disappeared. The period of treatment was three weeks. It was then determined to employ a much stronger solution.

Case 2.—Jane P., aged nineteen. This case was similar to the former; but the tubercles were more numerous and larger. On January 21st, a lotion composed of carbolic acid and water, equal parts, was ordered to be applied by means of a brush each day; and the usual carbolic acid lotion to be kept constantly applied to the parts. On February 2nd the tubercles had entirely disappeared. In this case the period of treatment was twelve days.

Case 3.—Catherine H., aged twenty, had a discharge from the vagina, with a mass of mucous tubercles on the labia and upper part of the thighs, and around the anus. On January 24th the strong lotion, consisting of equal parts of carbolic acid and water, was ordered to be painted on daily with a brush, as in the preceding case; the usual carbolic acid lotion to be constantly applied. On February 7th the tubercles had almost entirely disappeared. The patient was nearly well. In this case the period of treatment was fourteen days.

In all these cases the pain was inconsiderable; nor was there any necessity for the use of surgical instruments, such as scissors, &c.

Art. 153.—*Cryptogamic Origin of Syphilitic Diseases.*

By J. H. Salisbury, M.D.

(*American Journal of Medical Sciences*, January, 1868.)

Dr. J. H. Salisbury believes that he has discovered the specific cause of syphilis and gonorrhœa, in two new algoid vegetations. His microscopic studies connected with syphilis were commenced in 1849, but it was not until 1860 that he made any progress, "for plants of this character had been but little studied on account of their habitat, their resemblance to connective tissue filaments, and their extreme minuteness." The plant which he believes is the cause of syphilis he terms *Crypta* Syphilitica. No substantial progress was made by the examination of pus from primary sores alone, although it was observed that the pus contained small highly refractive spheroid bodies, which were afterwards found to be the spores of the *Crypta Syphilitica*. By dissecting the beds of chancre, and subjecting the tissue to careful microscopic examination, a peculiar filament was discovered running in all directions, singly and in bundles, through and among the diseased connective tissue elements. This organism was found to be algoid; it was found in multitudes, and in all stages of development, from the spore to the mature filament. The author states that he has found it in one hundred cases. When the disease has become constitutional it is found in the blood, and he believes its presence or absence in the blood is a sure guide for continuing or discontinuing treatment. The following is the author's description of this minute organism:—*Genus*, Crypta (Salisbury).—Minute, transparent, highly refractive algoid filaments, which develope in living organic matter from spores. *Species*, C. syphilitica, (Salisbury).—A homogeneous filament, with extremities obtusely rounded. The filaments are of such uniform structure throughout that no trace of transverse markings are visible save in their early stage of development; neither can the contents be distinguished from the outside wall of the filament. The filaments are either straight, coiled, or arranged in curves. They develope from spores, which may be active or inactive in the connective tissue, and may be transplanted from one individual to another by inoculation, or by contact with mucous membranes. The connective tissues, cartilage, and bone furnish a fertile soil for the development and propagation of this plant. When the spores are planted on a mucous surface, they vegetate, the filaments making their way through the basement membrane, instead of extending laterally in the epithelial tissue. The epithelial tissue, in the primary disease, is only destroyed immediately over where the plants first penetrate the glue tissue beneath." A somewhat similar cryptogam the author believes to be the specific cause of gonorrhœa. It occurs as spores in the pus, and among and in the epithelial cells, and as filaments, single and in knots, in all stages of development. In the embryonic filaments a moniliform structure could be observed, exhibiting the outlines of the individual spores, while the more advanced and mature filaments were usually homoge-

neous throughout their entire length. To this plant the author gives the name *Crypta Gonnorrhœa*. It limits its invasion to the epithelial tissue, whilst the Crypta Syphilitica confines itself mainly to the connective, cartilaginous, and osseous tissue.

Art. 154.—*A Remarkable Illustration of Latent Syphilis.*

Under the care of Mr. Hutchinson.

(*British Medical Journal*, February 22.)

Amongst the syphilitic cases on December 6th, at the Hospital for Skin-Diseases (Blackfriars), there was one man whose narrative deserves special note. He came on account of numerous sores on the mucous membrane of his lips, from which he had suffered for about a year. He had also a considerable scar on the skin of the lower lip, left by an ulcer two years ago. The character of the sores on the lips was unquestionable; and the diagnosis was supported by bald patches on the tongue, with the fissures and white streaks so characteristic of the disease. The man was perfectly candid in his history; he had had a chancre twelve years ago, when he was an in-patient at King's College Hospital for one month, and then left cured. He did not recollect that he had at the time either rash or sore throat. A year or two later he had a sore on one leg, and after that he remained well until his present symptoms commenced, about the mouth two years ago. About four years after the chancre he married; his wife has borne four children, all of whom are living, and in excellent health. As far as he knows, none of them have ever ailed anything whatever. He has himself always enjoyed excellent health, and does so at the present time. It should be stated that this man is very intelligent, and gave his history very freely. We seem to have in his case a proof of the following propositions:—1st. That a patient, who has appeared quite well for eight or ten years, may yet present tertiary symptoms. 2nd. That a taint which will be very long persistent may be acquired in a case in which the secondary symptoms are either wholly absent, or so slight that the patient never notices them. Lastly, that the children born to a man in whom a latent syphilitic taint exists may be apparently healthy.

Art. 155.—*On the Treatment of Syphilis.*

By George H. B. Macleod, M.D., F.R.C.S.E., Lecturer on Surgery, Andersonian University, and Surgeon to the Lock Hospital and Royal Infirmary.

(*Glasgow Medical Journal*, April.)

The author is of opinion that mercury is the remedy for secondary syphilitic disease. It is the only drug which, in his opinion, exercises any influence over that stage of the affection, and that it is of the

utmost service, and never injurious if properly employed, he is as persuaded as he is of any fact in medicine. It probably exercises no direct influence whatever on the syphilitic virus, but that it has a most powerful effect in removing the secondary consequences, it is difficult to see how any one can doubt. It is not then a specific, but it is as truly a remedy as we possess for any disease with which we have to contend; but if it is given at the wrong stage of the complaint, or in wrong quantities, or to persons constitutionally unfit to use it, even in small amount, then the harm which is done cannot be fairly attributed to the drug. It is very doubtful whether it should ever be used in either the primary or the tertiary stage of syphilis; and certainly, if given at all to scrofulous or broken-down persons, or to those suffering from diabetes or scurvy, or those who cannot from their occupation avoid cold and damp, it must be most guardedly and in small quantities. It is in the secondary stage of the disease that its great triumphs are obtained, and especially in the scaly and papular syphilides. Endless errors must arise when mercury is given before the constitutional outbreak appears; and its administration must be guided by the very opposite teaching to that formerly relied on—viz., that the anto-inoculability of the pus was in itself a sign that mercury was demanded.

When mercury is administered to syphilitic patients, every means should be at the same time employed to keep up their vigour. They should be warmly clad in flannel, and made to use a hot bath occasionally, in order to retain the free action of the skin. Iron is often well given at the same time, especially if there is any appearance of chloro-anæmia; cod liver oil too; and, if necessary, quinine. The diet should be nutritious and easily digested: all crude, flatulent food should be avoided. Acids too and fruit are best left alone while the mercury is taken. If stimulants are required they may be taken, and in a form suited to the individual. Exercise and all other hygienic measures fitted to sustain the health and vigour should be enjoined. It is the strongest claim that mercurial fumigations have upon our attention, that in that manner the drug can be most effectively administered, and yet the use of tonics and the requisite diet not endangered by any weakening of the digestive apparatus. Individual idiosyncrasies should be carefully estimated and observed in the use of mercury.

When administered by the mouth, mercury is apt to cause irritation of the gastro-intestinal canal, unless it is given in small doses, and guarded by its mode of combination. If long continued it is apt to weaken the digestive organs, destroy the appetite, and thus indirectly injure the vigour. It is not always easy to avoid these drawbacks, however careful we may be in its administration. A solution of the bichloride in water, or in a bitter infusion, combined with chlorate of potash, and, if necessary, the iodide of potass, has always appeared to Dr. M'Leod the best form in which to administer mercury in syphilis. The dose of the mercurial salt should not exceed the eighth of a grain, while five to twenty grains of the chlorate and the iodide may be used. The remarkable effect of the chlorate in preventing salivation, and yet not retarding or in any way injuring the influence of the mercury, is very curious and valuable. It was first pointed out by Herpin. Dr. M'Leod has never had need to use more than scruple doses of the

chlorate to effect all the good desired from it, and very rarely does he employ more than from five to ten grains. Iron may of course be combined with the mercurial, if it is so desired. The bichloride may also be dissolved in ether and given in cod liver oil; and if, from the nature of the secondary disease against which it is wished to act, it is thought that arsenic might prove useful, it can be of course administered at the same time. Mercury, arsenic, and iron together have often a most beneficial effect on chronic scaly, syphilitic eruptions.

Whatever preparation of mercury is used, it should be continued in small doses for some time after the secondary symptoms have disappeared, and then iron and iodide of potassium, with strengthening diet, cod liver oil, and country air, employed to fortify the constitution against any further outbreak.

The moist calomel vapour bath is undoubtedly the most manageable, effective, least hurtful, and in all respects most pleasant method of promoting the cure of secondary syphilis. When thus used, mercury causes no gastric disturbance; the appetite being unaffected such food can be taken as is necessary to sustain the strength; and iron and iodide of potassium, or any other remedy, can be used at the same time. Violent effects Dr. M'Leod has never seen from the moist vapour, though constantly in the way of prescribing it both in public and private practice, and its rapid and satisfactory action is most gratifying to both patient and surgeon. For the cutaneous outbreaks of syphilis nothing can be more successful than the mercurial vapour, and as it causes little or no debility there is but little risk of its being followed by relapses. Calomel in quantities of fifteen to twenty grains is, he thinks, the most efficacious and manageable form to use the mercury for this purpose. Pearson employed the red sulphuret; and the iodide and binoxide, and other preparations have been also tried. A drachm of the bisulphuret, mixed with ten grains of the iodide, does very well. Some of the preparations used do not succeed well, others are too irritating,—none are so good as the calomel. Messrs. Wicker and Blaise of St. James-street, London, have constructed a most simple and efficient apparatus for the administration, and its exceeding cheapness puts it within the reach of all.

Mercury in all forms is injurious when the eruption contains pus, so that in ecthyma, impetigo, and rupia it should be avoided. If the cachexia is deep, it must in any case be very sparingly and carefully administered, while iron and an upholding regimen must be combined with it. In those rare cases in which there is a marked obstinacy to the action of mercury, it is said that antimony, given in small doses for a few days, will render the constitution amenable to its effects.

In the intermediary stage of syphilis, when the symptoms partake partly of the secondary and partly of the tertiary type, a combination of mercury and iodine, either in pill—or what is far better, moist calomel vapour, externally, and iodide of potassium, internally, may advantageously be used.

In tertiary syphilis mercury is commonly hurtful. The later the outbreak the worse the effects of that drug. Iodine, in combination with an alkali, now comes to be of inestimable advantage. Iodide of potassium, or of soda, or of ammonia, are nearly equally efficacious. The first is

most commonly employed. Alone, or with iodide of iron, it is almost specific. Its good effects are attributed by some to its eliminating the mercury administered during the secondary stage.

When, by the foregoing measures, all outward traces of the complaint have disappeared, we endeavour by the Turkish bath, country air, tonics, mineral waters, &c., to confirm the recovery.

The red precipitate ointment will be found a useful dressing to such ulcerated surfaces as demand a stimulant. For condylomata nothing suits better than Ricord's plan of applying a lotion of chloride of soda for a few days, and then dusting with calomel; or alternating applications of Burnet's solution, nitrate of silver in paste, and a poultice; or an ointment made of equal parts of calomel and sulphate of zinc. Rest and cleanliness are, however, most important to the removal of these growths.

With regard to syphilization, Dr. M'Leod's personal experience of it has been small, but he has no desire to enlarge it from what he has already seen of its effects.

Art. 156.—*On the Treatment of Syphilis.*

By Professor Krysjka, of Warsaw.

(*Wochenblatt der k. k. Gesellschaft der Aerzte in Wien*, No. 44, 1867.)

Dr. Krysjka, convinced of the necessity of mercury in the treatment of syphilis, and a witness of the sad results springing from an abuse of this remedy, has inquired during many years whether there be not some method by which the disease can be annihilated without the organism being poisoned by the treatment. Such a method, very simple, readily acceptable, and entailing very little trouble on the medical attendant, the author thinks he has discovered; and feels himself in a position to assert that by the rational treatment of primary syphilis in its localized form, the danger arising from the disease is reduced to a minimum, and the patient at the same time is not exposed to the risks which accompany the remedy. This simple plan of treating primary or other local forms of syphilis does not necessitate a restricted diet, change of the patient's habits, confinement within an hospital, or cessation from business. It consists in dislodging the malady from its place of origin and in destroying it locally, and not, as in the usual method, by poisoning and ruining the organism in order to render it unfit for the further development of the syphilitic matter.

In order to remove syphilis from its starting-point or from the place in which it is localized by mercury, the local application of this mineral is sufficient. As caustic applications have not answered the expectations of surgeons, the most suitable preparation of mercury for this purpose is yellow wash, which is not a caustic agent, but one capable of being absorbed and neutralizing the poison, particularly when its action is assisted by the internal administration of some active agent like iodine in connexion with potash. The iodine extends rapidly through the system without poisoning it, and meets with the absorbed mercury,

which is converted into a biniodide capable of acting locally as a caustic on the syphilitic poison.

To carry out these principles into practice, Dr. Krysjka applies yellow wash to the local sore, and orders to be taken three times in the day one teaspoonful of a mixture of two drachms of iodide of potash in five ounces of water. By this treatment a cure has been effected not only in cases of recent contraction of the disease, but also on patients who presented extensive sores on the genitals, and already, in consequence of the progress of the disease, complained of pains in the swollen inguinal glands. Dr. Krysjka has also carried out the same plan, with very good results, in females affected with inflamed inguinal glands and with condylomatous growths and sores causing great enlargement of the labia. It is considered that after the treatment of primary syphilis according to this method, the disease ceases to be contagious, so that during the process the labourer may associate with his fellows, and the soldier continue his duty.

The local application of mercury is only useful in the treatment of the primary forms of syphilis; in the secondary and tertiary forms Dr. Krysjka gives it internally with steel, and also orders sulphur baths. In nocturnal pains in the bones iodine of potassium acts most rapidly.

Art. 157.—*The Zittmann Treatment.*

(*Journal of Cutaneous Medicine*, October, 1867.)

We are glad to observe that the Zittmann treatment occasionally meets with a worthy advocate. In our own practice we place it by the side of mercury and iodine; all the three excellent in their way and at the proper time, and admitting of no substitution. Those who use and know how to use these remedies, are fully aware of their perfect qualities; they have seen cures effected by them over and over again, sometimes alone, sometimes in combination; they know which to select for the partieular case, which is right for the time, although it might not be right at another time, and they know that they may be employed safely and successfully. But cases sometimes occur in which mercury is no longer advisable, and iodine is no longer proper, and then comes the triumph of the Zittmann treatment. It either cures at once, or it prepares the way for cure; and in every case it removes from the system every particle of mercury or iodine which may be present and may interfere with the further use of those remedies; and it supplies us with a virgin soil for the readministration of those specifics if thought necessary. Mr. Buxton Shillitoe, whose paper in the *Medical Times and Gazette* of May 11th, 1867, has suggested these remarks, observes:—"We have in Zittmann's plan a remedy of undoubted value. The dieting, combined with the sweating, purging, and diuresis, promotes the action of the secreting and excreting organs. It is essentially eliminative, and would no doubt be found useful in many other diseases. In tertiary syphilis, where the system is often saturated with the remedies that have been ineffectually given for the cure of the disease, I believe it will be found to be of great value. The almost

immediate action that it has upon the general aspect of the patient is surprising. My first patient had marked syphilitic cachexia, but by the end of the fortnight his skin became as clear and white as a child's. The urgency of his symptoms on his relapse, and the great inconvenience attending a fortnight's absence from business, prevented my trying the same remedy again." Mr. Shillitoe, in the cases which were not cured immediately by the Zittmann treatment, was enabled to cure the disease completely and in a short time in rebellious examples of tertiary syphilis, by the subsequent exhibition of iodide of potassium in large and increasing doses.

Art. 158.—*Treatment of Chaps and Chilblains.*

By M. Cazenave.

(*Gazette Médicale de Lyon*, and *Medical Times and Gazette*, January 11.)

For dryness of the hands, M. Cazenave recommends the following preparation:—Two yolks of fresh eggs, two spoonfuls of oil of almonds, one ounce of rose-water, and half a drachm of tincture of benzoin. For chaps of the fingers he paints them every evening with tincture of aloes from two to four parts, and glycerine thirty parts. In chaps of the lips he employs oxide of zinc one part, cold-cream, cacao butter, and oil of almonds of each fifteen parts. To prevent chilblains he advises the use of lotions containing liquid ammonia slightly diluted with water strongly aromatized with lavender water or eau-de-Cologne. When they have appeared, we should employ ointments composed of the fioraventi balsam, tincture of benzoin, or balsam of Peru; and the following ointment may often be advantageously resorted to:—White precipitate and chloroform of each one-third of a part, cold-cream thirty parts.

Art. 159.—*Powdered Iodoform as an Application to Ulcers.*

(*The Lancet*, January 18.)

M. Besnier writes to the *Bulletin de Thérap.* to say that powdered iodoform applied to soft chancres, or cancerous ulcerations, has proved a valuable application.

Art. 160.—*An Arterial Compressor.*

(*Wales's Treatise on Surgical Operations and Appliances.*)

One of the most ingenious and useful instruments mentioned by the author, and of his own invention, is an arterial compressor, of which he introduces the following description in the excellent chapter on bandaging in general:—

"First, two well tempered steel rings, of suitable diameter, were

selected and connected by two metallic bars, keeping the rings from each other at the distance of the shoulder from a point just above the olecranon. One of these bars had a width of two inches, was concave, and fitted to the outside of the limb; the other was narrow and supported three pads, at equal distances of its length, at the ends of long screws working through it; this bar was also moveable, to correspond to the course of the brachial artery, and could be secured at either end by thumbscrews. This apparatus, covered with buckskin, is ready for use; and when properly adjusted, pressure is brought to bear upon the artery by the pads being alternately screwed against it, or, what I think better, by bringing them all down lightly; for the force necessary to interrupt the flow of blood in the artery is thus distributed among the three pads, and hence a third part only of it is exercised on any one point at once."

Art. 161.—*On Gouty and some other Forms of Phlebitis.*

By James Paget, F.R.S.

(*St. Bartholomew's Hospital Reports*, vol. ii.; and *British and Foreign Med.-Chir. Review*, January, 1868.)

Mr. Paget in this paper gives an account of some cases of phlebitis different from any he has found on record. They are all examples of the so-called adhesive phlebitis, in which inflammation of the coats of a vein is associated with clotting of blood in its canal, but not with suppuration or pyæmia. The disease to which Mr. Paget gives the name of gouty phlebitis is that condition in which phlebitis is associated with ordinary gouty inflammation in the foot or joints, and occurs in persons of marked gouty constitution. It is found more usually in the lower limbs, and affects the superficial rather than the deep veins. Mr. Paget does not consider that active treatment is necessary in the management of gouty phlebitis, the best agent being rest, with the trunk and limbs level. Other forms of phlebitis are described in the paper, one case described being of a very rare kind, in which the disease extended through large portions of the branches of both the superior and inferior *venæ cavæ*.

Art. 162.—*Observations on the Pathology and Treatment of Joint Disease.*

By Holmes Coote, F.R.C.S.

(*St. Bartholomew's Hospital Reports*, vol. ii.; and *British and Foreign Med.-Chir. Review*, January, 1868.)

After describing the details of two cases, Mr. Coote observes that of all the structures comprising a joint two only are the subjects of primary inflammation, namely, the synovial membrane and the cancellous tissue of the bone, and the knee is most commonly the seat of the disease; but atrophy of cartilage, elongation of ligaments, or gradual

distension of the capsule, Mr. Coote regards as errors of nutrition, not necessarily of inflammatory origin. In one of his cases the disease of the joint appeared to be in an early stage; but in the other it was more advanced, and was complicated with general paralysis. The chief remedial measure to be adopted in such cases is rest, long continued and unremitting, until the healthy nutrition of the parts has been restored; and among the wealthier classes of society this plan can in most cases be effectally carried out, and when combined with change of air and all necessary accessories it usually suffices to effect an early cure.

ART. 163.—*On the Method of Continued Aspiration, and its Advantages in the After-treatment of Capital Amputations.*

By M. MAISONNEUVE.

(*Archives Générales de Médecine*, No. 1, 1868.)

The following details were communicated by M. Maisonneuve to the Academy of Sciences of Paris:—

The aspiratory apparatus is composed, 1st. Of a cap of caoutchouc furnished with a tube of the same material; 2nd. Of a flask with a capacity of three or four litres, furnished with a cork pierced by two holes; 3rd. Of an aspiratory pump supplied with a flexible tube. The stump, covered by its dressings, is first fixed in the cap of caoutchouc, the orifice of which embraces closely the circumference of the limb, whilst the extremity of its tube is fastened to one end of the flask. To the other end of the flask the tube of the air-pump is applied. The air contained in the flask is then partially removed by working the piston of the aspiratory apparatus. The fluid of the dressings, mixed with those secreted by the wound, are also drawn away and fall downwards into the flask. The cap of caoutchouc deprived of its contained air, is pressed inwards and applied exactly to the surface of the stump. The weight of the atmosphere exerts intermediately a powerful compression, which maintains the divided surfaces in contact, and combined with the continuous aspiration produced by the rarefaction of the air in the flask, prevents any collection of fluid from being formed; thus favouring prompt cicatrization.

ART. 164.—*Unusual Effect of Subcutaneous Injection.*

By F. WOODHOUSE BRAINE, F.R.C.S., &c.

(*Medical Times and Gazette*, January 4.)

The following case is related by Mr. Braine:—

Mrs. H. C., aged thirty-five, in good health otherwise, had been kept awake for seventy-two hours by intense neuralgic pain on left side of head, face, and neck, arising from a carious molar tooth on left side of lower jaw. She was injected with morph. acet. $\frac{1}{3}$ gr. At 1 A.M. on June 28th

last, the morphia, dissolved in about four drops of water, was introduced under the skin of the left arm, just over the insertion of the deltoid. No blood appeared at the puncture. In about fifteen seconds tightness of the chest and difficulty in breathing were complained of, and the patient asked to be raised, saying she felt as if she were dying. Her face and lips now became pale; speech became indistinct (not inaudible); pulse irregular; some spasm of the facial muscles took place, and she fell back to all appearance dead. Cold water was freely dashed over face and chest, and as she was unable to swallow, her tongue was rubbed over with sal volatile, and ammonia applied to her nose, artificial respiration being kept up at the same time. During this time her face was blanched, pulse not to be felt, and respiration not to be perceived. Insensibility continued for about three minutes; then happily one or two feeble beats of the pulse, and a shallow inspiration or two, showed returning animation. She then became conscious; pulse feeble, but regular: respiration slow; fingers remained numbed, and both thumbs were firmly drawn into the palms of the hands. This passed off in about six minutes, leaving her feeling very ill, but free from the neuralgic pain, which did not return. There was no feeling of nausea, and no attempt at vomiting during any part of the time.

Art. 165.—*Powdered Alum: Marked Success from its Accidental Use in a case of Extensive Burn.*

By William Mason Turner, B.Ph., M.D. Philadelphia.

(*New York Medical Journal*, January.)

The successful termination of this case Dr. Turner ascribes *entirely to the accidental employment of alum.*

Various kinds of treatment were adopted, and under powdered calamine (zinci carb. nativ.), with an external dressing of simple cerate, there were, Dr. Turner says, some indications of improvement, but the symptoms were illusory; the granulations disappeared in a measure; but a day or so afterward, as the patient attempted to move himself in bed, a severe hæmorrhage occurred from both wounds and still further weakened him. Yet enjoining on him perfect rest, Dr. Turner continued the calamine dust and simple cerate application. A fair trial, however, determined its inefficiency. Next Goulard's cerate was tried, and the wounds strapped with emplast. adhes., and yet no satisfactory result. In the meantime several other hæmorrhages from the inner face of the thigh had taken place, exhausting the patient fearfully. Dr. Turner did not examine particularly the spot from which the bleeding had taken place. One day he was dressing the wound, and requested the patient to move his body if possible, so as to bring the burn into a more favourable position. He made quite a violent exertion, and as he did, a jet of dark blood burst from one single point on the inner face of the left thigh. Dr. Turner had no styptic at hand; he tried cold water and pressure, but without success. On inquiring, he learned there was some *burnt alum* in the house. This he powdered fine, and applied to the

bleeding surface, and had the satisfaction of stanching the hæmorrhage in a few moments. On examining the bleeding place, Dr. Turner found a soft, fluctuating tubercle, bluish in appearance, about the size of a pea. It protruded from beneath the internal edge of the quadriceps femoris muscle. The wound was of such a depth, that it was feared at one time that the hæmorrhage came from the internal saphenous vein, and that the tubercle was the vein itself. After having checked the hæmorrhage, Dr. Turner applied a compress, and bound it *in situ* with adhesive strips. Before closing the dressing, and merely to see what effect it might have, he dusted the edges for about an inch throughout the entire periphery of the wound with the alum, and covering it with the usual dressing, left. What was his surprise next day to see the portion over which the alum had been sprinkled, wearing an altogether different appearance, the foul granulations cut away, and the wound evidently disposed to heal. Fearing from the *commonness* of the remedy that the man would not be favourably impressed with this trifling treatment, as he would and did designate it, Dr. Turner brought with him the next day powdered alum, duly labelled, &c. The power of mind over matter is wonderful; it makes, when properly used, a mighty adjunct to success in our profession. A regular *alum treatment* was commenced then, and from that moment there was no more trouble; the man slept so well that anodynes were intermitted. The tonic treatment created an appetite, and nourishing food generated the necessary life-giving blood. The wounds healed with an astonishing rapidity, and what is more inexplicable and more fortunate, they left behind no drawing cicatrix. When the man was discharged he was in better health than he had been for years, and walked without limping.

Art. 166.—*On Congenital Cystic Tumour.*

By Thomas Smith, F.R.C.S.

(*St. Bartholomew's Hospital Reports*, vol. ii., and *British and Foreign Med.-Chir. Review*, January, 1868.)

The disease thus named by Mr. Smith is defined by him as a tumour formed of an admixture of cystic and solid substance in varying proportions, the cystic element consisting of one or more circumscribed cavities, with thin walls, and containing serous fluid. Such tumours are liable to be mistaken for fatty growths, for subcutaneous nævi, and even for spina bifida, but in the last case the skin over the tumour is in a discoloured state, and in the others the diagnosis may he made by the introduction of a grooved needle. The disease does not appear to be a fatal one, and is not very serious except from the great bulk which the tumour sometimes attains, and a spontaneous cure has not unfrequently happened. Of all the remedial measures recommended for the treatment of this affection, Mr. Smith prefers the employment of the seton, and he gives the particulars of five cases in which this plan was successfully adopted. He admits that in the hands of other surgeons the treatment by seton has not always been successful, but he thinks that where fatal results have ensued, the setons were too large, and that fatal inflammation or suppuration supervened.

Art. 167.—*On Arterial Cirsoid Tumours.*

By M. Gosselin.

(*Archives Générales de Médecine*, No. 12, 1867.)

M. Gosselin's memoir is devoted to the clinical study of those tumours that are formed by extreme dilatation of arteries near their termination, that is to say, of the minute arteries, or small arterial branches. The author carefully differentiates the erectile tumours formed at the expense of the cutaneous capillaries and the cirsoid aneurisms developed from the arterial branches.

After a study of the anatomical characters, causes, evolution, and symptoms of arterial cirsoid tumours, M. Gosselin discusses and rejects the operations that have hitherto been proposed and practised, and recommends the frequently repeated injection of perchloride of iron into the substance of the tumour; he defines with precision the rules for carrying out this treatment, and demonstrates its advantages by reported cases.

Art. 168.—*Muscular Rheumatism.*

Hospital Out-Patient Practice.

(*The Lancet*, March 14.)

It seems to be often doubtful whether the disease, as commonly so described, is really connected with "rheumatism," which it resembles only in that it is attended by pain, and is often consequent upon exposure to cold and damp. But in these respects it is equally allied to neuralgia, and it would perhaps be more proper to class the condition under this head.

St. Mary's Hospital.—Dr. Broadbent's treatment of the acute forms of muscular rheumatism is chiefly local. For "stiff neck" he prescribes a stimulant and opiate liniment; turpentine and laudanum, and sometimes chloroform, added to the linimentum saponis. This is ordered to be rubbed in warm on the affected part with as firm pressure as the patient will bear, so that the muscles may be kneaded as well as the skin reddened. A warm flannel is afterwards to be put round the neck.

In lumbago he applies a large sinapism across the loins, followed by hot linseed poultices or a succession of linseed poultices, on the surface of which mustard is sprinkled. Turpentine stupes do equally well; but he finds that the poor do not manage them properly at their own homes. Rest is enjoined; but the patient is not ordered to remain in bed, the act of turning in bed putting a strain on the lumbar muscles, and causing much pain. If the bowels are confined, and there is any febrile action, a saline and alkaline aperient is given. In the latter stages of an acute case, or in the more chronic forms, the emplastrum picis or emplastrum roborans replaces the poultices, and a flannel belt is recommended. Iron is also usually given internally.

Chronic pains in the loins and limbs, which, being seated in the muscular structures, and worse during or after exertion, are often called chronic muscular rheumatism, Dr. Broadbent has found to be due to various causes, and associated with various conditions of the system. Very commonly these pains are merely the expression of debility and overwork. But in washerwomen, who in washing and hanging out clothes are exposed to moisture and to chills, the muscles of the arms and shoulders, and in gardeners and men who work in the streets, the muscles of the loins and lower extremities are sometimes the seat of chronic pain of a severe character, which may fairly be called rheumatic. An obstinate lumbago again is sometimes the result of lead-poisoning, and may be the only symptom attending it. The treatment varies accordingly. Cod-liver oil, iron, and tonics in debility, with a plaster to the loins, or a stimulating liniment to the limbs where debility seems to be the main cause; warm baths and shampooing, or Turkish baths if the patient can procure them, flannel under-clothing in addition to liniments, &c., when exposure to wet and cold has given rise to the rheumatism. Alkalies and iodide of potassium do not seem to be of much service. Cod-liver oil does good, and sometimes guaiacum has appeared to be useful. In the lumbago arising from lead-poisoning, iodide of potassium is given to carry the metal out of the tissues, and afterwards cod-liver oil and iron, or the oil may be taken at the same time with the iodide.

Dr. Broadbent has in several cases known muscular rheumatism to be closely simulated by inflammation about the nerve-roots as they issue from the spinal column, and has obtained the best results from a blister applied along the region affected.

Middlesex Hospital.—Muscular rheumatism, in the ordinary acceptation of the word, is a term applied to at least two or three classes of cases. Their symptoms are alike, inasmuch as they consist of pain referred to the muscles; but their causes and treatment are quite distinct.

The first class has nothing whatever to do with rheumatism, though it still retains a name which implies the contrary. It is most commonly met with in persons, both old and young, suffering from general debility; but not necessarily with any constitutional tendency to rheumatism, or to the deposit of lithates in the urine, which, on the contrary, is often neutral and phosphatic. Its principal feature is the peculiarly aching character of the pain, which most commonly occurs in the muscles of the extremities and back, more especially those of the arm and shoulder, and is, in fact, a continuous and exaggerated form of the pain familiar to every one after unusual muscular effort. It is the result of an over-fatigued state of the muscles, as is indicated by the fact that rest and support to the aching limb invariably relieve the pain. Dr. Robert Liveing finds that the only successful plan in treating this malady is the administration of tonics, of which iron and cod-liver oil are the most efficacious. Friction with anodyne liniments, such as the opium liniment combined with extract of belladonna, is also beneficial, and to this must be added rest and good food; while the treatment with alkalies and purgatives, which is often adopted, is worse than useless.

The second form of muscular pain commonly met with is really of rheumatic or gouty origin. It occurs in those who are more or less subject to rheumatism of the joints, who have had perhaps one or more acute attacks, and whose urine is acid and often loaded with lithates. Ordinary lumbago is a good example of this malady in one of its severer forms; but in milder and more common cases it is nothing more than a sharp pain in the muscles, without much constitutional disturbance; though it is often premonitory of an attack of rheumatism. The best mode of treatment is to keep the part affected thoroughly warm, and the internal administration of bicarbonate and nitrate of potash and magnesian purgatives. In these cases local friction, with stimulating liniments, such as the camphor liniment, combined with chloroform, may be advantageously used.

Lastly, pains referred to the muscles of the trunk, especially those of the back, are often of a reflex kind, and similar to the well-known pain between the shoulders which is caused by gastric irritation, or the still more common lumbar pain from uterine disturbance. But though in these cases the seat of the mischief is in some other organ, requiring its own special treatment, yet it is remarkable that the local application of anodynes, as for example a good belladonna plaster, is almost invariably followed by relief to the sufferer.

Charing-Cross Hospital.—Dr. Headland regards the treatment of muscular rheumatism necessary as of two kinds, specific and palliative. The antidote to the rheumatic poison is potash; and Dr. Headland generally administers the bicarbonate in doses which are proportional to the severity of the case. In acute cases half a drachm is given every four hours; in chronic cases, unattended with fever, ten to fifteen grains three times a day will be sufficient. The latter dose may be continued for weeks or months, and is generally followed by an improvement or by a radical cure. Dr. Headland never gives iodide of potassium in rheumatism, except where there is a certainty or a suspicion of venereal taint. When rheumatic pains cannot be relieved by potash, it is generally because the nervous irritation has lasted so long that neuralgia or neurosis has taken the place of the inflammatory action first caused by the acid poison. In these instances, Dr. Headland has much faith in minute doses of belladonna or atropia.

Warm baths and vapour baths are often of use in muscular rheumatism. The *materies morbi* is got rid of in the acid sweat. There are other modes of treatment applicable to particular cases. Thus, in lumbago, the warmth and support afforded by a tight flannel belt is of great service. In sciatica, which is often aggravated by the pressure of a loaded bowel on the nervous trunks in the pelvis, we may give purges of aloes, turpentine, or croton oil.

The palliative treatment is chiefly local. Simple friction, or a stimulating liniment, will do good in chronic cases of long standing. A liniment of opium or belladonna, or a plaster of either, may be used when the pain is aggravated by pressure.

As a last resource, repeated blistering over the part has proved successful in Dr. Headland's hands, when other treatment has failed. A grain of morphia, sprinkled over the raw surface, afforded relief in a recent case of extraordinary severity.

King's College Hospital.—In selecting a method of treatment for so-called muscular rheumatism, Dr. Duffin is guided by the following considerations—the duration of the muscular pain, its intensity, and the area it involves. Should the annoyance not date back beyond a week, be confined to a few muscles, and be of no great severity, he employs local counter-irritation in the form of sinapisms or the application of the turpentine liniment of the Pharmacopœia. The latter he advises to be used in the shape of a stimulating fomentation, by stirring it into boiling water in the proportion of two ounces to the pint, and then applying flannels soaked in the hot mixture to the part affected. This application should be made before the patient goes to bed, and may with advantage be followed up by a linseed-meal poultice. Diaphoretics, in the shape of Dover's powder, full doses of the solution of acetate of ammonia, &c., are simultaneously administered. Should the pain from the first assume a severe type, or its invasion be very sudden, dry-cupping has proved of great value, applied energetically, and followed, if need be, by stimulating embrocations. In a few cases of unusual severity, the subcutaneous injection of morphia has been found to answer, either where all forms of counter-irritation had failed, or where dry-cupping was inapplicable. When the complaint has already assumed a chronic form, Dr. Duffin advocates the use of blisters. These should produce their full vesicant effect to be of service, and may be repeated if necessary; but he does not deem that any advantage is to be derived from keeping them open. In inveterate cases, iodide of potassium and guaiacum administered internally have rendered the most undoubted service; but if the pain be strictly localized, free counter-irritation should first be tried. Neither the alkalies, as the solution of potash and the carbonates of potash and soda, nor the nitrate of potash, seem to have yielded in Dr. Duffin's hands the good results that had been anticipated; but of the value of the iodide of potassium he is able to speak with some confidence. Dr. Duffin regards these pains as really arising in the fibrous envelopes and septa of the muscles; in so far then the term commonly applied to them would be a misnomer. That these pains are aggravated by muscular action, or may even be exclusively induced by this, does not afford sufficient proof that they originate in the muscular substance. He further remarks that the pain seems the only bar to freedom of movement; once that is alleviated, the motility of the part directly returns. In treating these cases, the chronic aches of exhausted and anæmic patients must be discriminated. These Dr. Duffin treats by the aid of ferruginous and other tonic preparations internally. He has also found great advantage from the local employment of belladonna, either in the shape of liniment, extract, or plaster.

St. Thomas's Hospital.—Dr. Clapton generally treats cases of acute lumbago with a mixture of sulphate of magnesia, carbonate of magnesia, and wine of colchicum, three times daily, and Dover's powder at bedtime. The patient is also directed to have the loins bathed with a sponge or flannel wrung out in very hot water; a piece of warm dry flannel being subsequently applied. In the more chronic stage, iodide of potassium, with perhaps potash and bark, internally, and belladonna plasters, are chiefly relied upon. For pleurodynia, a mixture of quinine and henbane is generally found more efficacious than colchicum, alka-

lies, or iodides; but if there should be febrile disturbance, citrate of potash with henbane is given before the quinine. For external use, ammonia liniment or mustard plasters are ordered. In very chronic cases the guaiacum mixture has frequently been found quickly beneficial, but in the earlier stages it is apt to induce feverishness, and even an increase of pain. Other forms of muscular rheumatism are treated according to their severity and the constitutional condition of the patients.

SECT. II.—SPECIAL QUESTIONS IN SURGERY.

(A) CONCERNING THE HEAD AND NECK.

ART. 169.—*On the Operative Treatment of Cystic Bronchocele.*

By Professor PATRUBAN.

(*Allgemeine Wiener Medizinische Zeitung.*)

The following is a brief description of Professor Patruban's operative treatment in all cases of cystic bronchocele:—

(*a*) Laying open the sac. An incision is made into the skin in the median line and corresponding to the deepest part of the tumour. The sac of the cyst is then exposed by separating the layers of fascia, and a puncture made into the wall at the thinnest part. The bistoury is then turned at right angles to the first position, so that the contents of the cyst may flow away slowly along its blade, the puncture is then cautiously extended along the middle line, and the exit of the exudation facilitated; finally, the end of the little finger is introduced, and any concretions that may be present at the bottom of the cyst are removed.

(*b*) Fixing the cyst. After the surgeon has made sure from close examination that the lower angle of the skin incision corresponds to the deepest part of the tumour, the wall of the cyst is fastened by two or three sutures to the external integument.

(*c*) After arresting the hæmorrhage, which has to be done with especial diligence, the cyst is filled with charpie, and the surgeon now waits for the process of suppuration. This follows in a very short time, and as a rule exhausts itself within the space of six weeks; the duration, however, depends upon the size of the cyst.

Professor Patruban, who has had considerable experience of this operation, states that it is extremely harmless, and that he has never observed any serious reaction, such as almost invariably follows the application of the seton. The hæmorrhage resulting from perforation of large vessels in the wall of the sac, or those of adenoid new formations on the inner surface of the cyst, can be readily controlled in consequence of the free accessibility of the bleeding point.

A case is alluded to by Professor Patruban, in which he operated on a woman whose neck measured before the treatment 48 centimetres in circumference; but after a successful operation measured 36 centi-

metres. Suppuration lasted for forty-one days. Very serious disturbances in respiration, which alone moved the patient to submit herself to the knife, entirely disappeared. The patient kept her bed for two days only, and during the rest of the time required no medical attention.

Art. 170.—*On the Treatment of Cystic Bronchocele by Seton.*

By Dr. Hamberger.

(*Wochenblatt der Gesellsch. der Aerzte in Wien*, No. 33, 1867 ; and *British Medical Journal*, December 14, 1867.)

Dr. Hamberger, in a review of the different methods of treating cystic goître, states that he prefers the old plan of passing a seton, which has been applied by him in many cases with success. In operating on a cyst about the size of a hen's egg, and with its long axis parallel to that of the body, he punctures the swelling at a spot near its upper border, where there are no veins, and then introduces a stylet smeared with oil or butter, and armed with a seton consisting of a narrow strip of lint. He then makes the blunt end of the stylet project from the interior of the cyst under the skin, at a spot where there are no vessels, and upon this makes an incision from one-half to three-quarters of an inch in length. The seton is then drawn through the lower wound and the stylet withdrawn. The patient is kept to his bed, and the strictest attention paid to diet and rest. This operation, though nearly painless and unattended with much hæmorrhage, is generally followed, in the course of a few hours, by swelling of the thyroid gland and severe symptoms, such as increase of temperature, severe headache, flushing, thirst, vomiting, a strong frequent pulse, and even delirium. These symptoms disappear in the course of a week, and the patient is then allowed to leave his bed. The treatment lasts from six to eight weeks. The fluid discharged from the cyst has a strong odour of fatty acids, which Dr. Hamberger thinks is due to a fatty metamorphosis of the elements of the growth. Dr. Hamberger observed pyæmic fever following this operation in one case only, in which a cyst of enormous size was treated under very unfavourable conditions.

Art. 171.—*Four Cases of Excision of the Inferior Dental Nerve, on account of Intractable Neuralgia.*

Reported by S. W. Gross, M.D., of Philadelphia.

(*American Journal of the Medical Sciences*, January.)

Dr. Gross places on record four examples of neuralgia from morbid changes in the inferior dental division of the third branch of the trifacial nerve, which occurred in the practice of Professor S. D. Gross.

All known remedies for the relief of the disease had been employed without avail; and the operation of trephining the lower jaw-bone, and exsecting as much as possible of the trunk of the nerve, was instituted as a final resort. Entire immunity from pain resulted in every instance.

Art. 172.—*On Deligation of the Lingual Artery.*

By M. Demarquay.

(*Archives Générales de Médecine*, No. 2, 1868.)

M. Demarquay is convinced that though great importance is attributed to deligation of the lingual artery in treatises on operative surgery, the proceeding has hitherto occupied but a small position in actual practice. The occasions for applying a ligature to the lingual artery are not unfrequent, but surgeons are accustomed to look upon the operation as a difficult one, and for this reason hesitate to apply it even when the ligature is urgently required, allowing death to come to a patient who might have been saved by an operation.

M. Demarquay endeavours to demonstrate in his memoir: (1) that ligature of the lingual artery is not a difficult operation. (2) That it does not require special manual dexterity for its performance, but rather, (3) Very clear and precise notions of the anatomy of the region. (4) That the opportunity for applying a ligature to the lingual may occur more frequently than is generally supposed.

The lingual artery has been tied under the following circumstances: 1. To arrest traumatic hæmorrhage. 2. To arrest hæmorrhage consequent on a severe operation performed upon the tongue. 3. To arrest a flow of blood proceeding from an ulcerated erectile tumour of the tongue. The most frequent cause of lingual hæmorrhage is the removal by operation of one of those cancerous growths that occur so often in the organ of taste. When the base of the tongue is implicated near the origin of the lingual arteries, the surgeon is liable to have a serious hæmorrhage which cannot be arrested without great difficulty unless the lower jaw has been previously divided, an operation which M. Demarquay thinks ought to be rejected on account of its gravity, and the frequent failure in consolidation of the two halves after removal of cancer from the tongue, a circumstance that prevents mastication and leads to serious disturbances in nutrition.

M. Demarquay recommends deligation of the lingual artery as a preliminary hæmostatic proceeding in operations for the removal of large tumours from one or other side of the tongue, particularly near its base. Since large vessels, as the carotid, the axillary, and the femoral, have been tied previous to the removal of extensive vascular tumour, M. Demarquay holds that the surgeon is justified in applying a ligature to the lingual before removing a large growth from the tongue, especially as the last operation is less severe, and less painful, and does not expose the patient to the dangers of secondary hæmorrhage. M. Demarquay has performed deligation of the lingual artery on eight occasions without difficulty, and would not hesitate to apply it in dealing

with a lingual tumour difficult to remove, since under these new conditions the excision of the growth would be performed with greater security both for patient and surgeon. M. Demarquay's ideas on this point have been realized by M. Merault of Angers, and by MM. Flaubert and Roux.

In three cases of cancer of the tongue in which the disease had advanced too far to admit of removal by operation, M. Demarquay tied both lingual arteries, and succeeded in arresting the development of the cancer, in obtaining a marked diminution in the size of the tumour, and finally in preventing the death of the patient from inanition and asphyxia. These patients, however, were not cured by this treatment; the operation may retard the progress of the disease, but it cannot prevent the propagation along the lymphatics, which form the principal road taken by cancer in its development. The practice of dividing the lingual nerve at the time of the deligation of the artery is not approved of by M. Demarquay. The tactile and gustatory sensibility of the tongue depends upon this nerve, the division of which is followed by swelling of the tongue and loss of its sensation, and liability of this organ to be bitten and lacerated during mastication. Lesions of this kind lead to hæmorrhage and an aggravation of the disease, the amelioration of which it is the object of deligation of the artery to bring about.

The best operation for applying a ligature to the lingual is, according to M. Demarquay, the one associated in France with the name of M. Blandin. An incision is first made through the skin, parallel to the hyoid line and extending from the anterior margin of the sterno-mastoid muscle to the middle line of the neck. The platysma muscle is then cut through, and the sub-maxillary gland, if large and in the way, raised. The finger can now be passed along the whole extent of the greater cornu which constitutes the lower side of a small triangle, enclosed above by the tendon of the digestive muscle, and with its base placed externally in the carotid region. In this triangular space, close to the great cornu of the hyoid line, the pulsations of the lingual artery may be felt above the hyo-glossis muscle. A few fibres of this muscle are next to be carefully divided, and then the artery is generally exposed. In order to reach the lingual with certainty it is necessary to proceed slowly, and to guard against all venous and arterial hæmorrhage by twisting the small vessels as soon as they are opened, so that the parts serving as guides in the operation preserve not only their proper relations, but also their normal colour.

The consequences of this operation are very simple. M. Demarquay, in his eight cases, performed it without an accident, either during or after the proceeding. The patients for a few days complain of slight dysphagia, which is due to a slight inflammation of the pharyngeal mucous membrane in contact with the ligature.

M. Demarquay's memoir is accompanied by tabulated reports of twelve cases of deligation of the lingual.

Art. 173.—*A Second Case of Pharyngotomy.*

By Edward Cock, F.R.S., Surgeon to Guy's Hospital.

(*Guy's Hospital Reports,* Third Series, vol. xiii. ; and *British and Foreign Med.-Chir. Review,* April.)

The patient, a servant in the camp at Aldershott, had been accustomed to wear even during his sleep a tooth-plate, from which all the teeth had been removed or worn away, and one night swallowed it. All attempts to remove it having failed, the patient came from the camp to Guy's Hospital, and was there operated on. The incision into the pharynx was made as far back as possible, to avoid filaments of the recurrent laryngeal nerve; a forceps introduced by the mouth was found to facilitate this part of the operation. The body was found in the ordinary situation, opposite the cricoid cartilage, and removed without difficulty. After the operation the patient was carefully fed through a tube and by enemata, and in a short time perfectly recovered. Mr. Cock lays considerable stress on early operation, before the patient has been weakened by prolonged abstinence and local mischief.

Art. 174.—*A Case in which an Osseous Foreign Body was Removed from the Larynx with the aid of the Laryngoscope.*

By Dr. Schrötter.

(*Medizinische Jahrbücher,* Bd. xv. 1868.)

On the evening of May 3, 1868, a young woman, twenty-two years of age, applied to Dr. Schrötter with great difficulty of breathing and noisy respiration. The following history was given: The patient, when dining off fowl in the afternoon, had suddenly a sensation as of some foreign body remaining fast in the throat. The medical man who had been called in passed a pharyngeal probang, and succeeded in removing an obstruction which at first was felt there, after which the patient was perfectly well, but remained so for only half an hour, when she was again attacked with serious difficulty of breathing, associated with a pricking pain in the throat. As this difficulty of breathing increased in intensity, the patient applied to Dr. Schrötter. A laryngoscopic examination was at once made by means of a petroleum lamp, and afterwards, in order to establish a certain diagnosis, by the magnesian light. Dr. Schrötter was then enabled to distinguish a piece of bone which was fixed below the vocal cords in such a manner that its sharp margin could be seen behind and on the right side, whilst in front and behind on the left side it was covered by the true vocal cords. There consequently remained for the purposes of respiration but a small space behind on the right side, and a still smaller space in front and on the left side. The portion of bone had a concave inner surface, which was directed upwards, and a convex surface directed downwards. The upper surface presented an irregular known colour, which was attributed to dried blood-clot.

The cause of the dyspnœa was now revealed, and the indicated treatment was to set about removing the foreign body by tracheotomy. In establishing the requisite indications for this operation, the laryngoscope had had a very important share; but Dr. Schrötter sought to gain greater triumphs with this instrument by attempting to remove the bone from the larynx through the natural passages. It was soon found that this proceeding would be attended with difficulty, for the tongue was much elevated at its back part, and the epiglottis was also directed backwards. Moreover, the patient was very uneasy, and remained for scarcely a second in the prescribed position. In order to reach the interior of the larynx it was necessary to raise the epiglottis. This was first attempted by means of an ordinary elastic catheter, but in spite of repeated attempts the employment of this did not succeed. Brun's instrument for elevating the epiglottis was then used, but the slight pricking of the valve, and the presence of the instrument, caused such prolonged fits of suffocation that the success of Dr. Schrötter's proceeding was again frustrated. Türck's instrument, a small hook furnished with a thin ligature, was now selected for use. The application of this was attended with very great difficulty on account of the restlessness of the patient, and the hook when fixed constantly caused severe fits of choking, so that it had to be removed. A very small and very sharp hook was then tried, but this had to be laid aside by reason of the movements of the pharynx. Dr. Schrötter then thought of bringing about local anæsthesia of the larynx, a proceeding that had never been carried out by him in other operations, and one for which there had previously been no necessity.

The laryngeal surface of the epiglottis, to the great discomfort of the young woman, was brushed over several times with a solution of three grains of morphia in one drachm of pure alcohol and half an ounce of chloroform. An elastic catheter could now be passed into the interior of the larynx, but as soon as the laryngeal forceps had been thrust beyond the epiglottis, the patient suddenly sprung up and overturned the petroleum lamp. This injury was soon repaired, but on introducing the catheter again, it was found that the sensibility of the larynx had been restored, and that it would be necessary to apply for a second time the anæsthetic solution. This was done as before, and the forceps again introduced; and this time with such success that Dr. Schrötter was enabled to seize the piece of bone. Care was taken to avoid lacerating the vocal cords whilst traction was made of the firmly-wedged foreign body; but after the bone had been tightly seized, it was moved first downwards, then to the left side, and finally, by an upward pull through the chink of the glottis, removed from the larynx. The patient's annoyance was now relieved, much to her delight and to that of Dr. Schrötter.

The previous views of Dr. Schrötter concerning the foreign body were found to have been correct in every particular save that on its dark colour, which was owing not to blood from the larynx but to the fact that the bone had not been thoroughly cleansed. The piece of bone was of considerable size, and considering the small size of the female larynx, its passage into the upper part of the air tube was a remarkable fact.

On the following day the interior of the larynx was found reddened at every part, and covered here and there by a yellowish secretion. In the course of a few days these appearances, most probably excited by the local anæsthesia, disappeared.

Art. 175.—*Successful Treatment of Carotid Aneurism by Valsalva's Method.*

(*The Lancet*, January 18.)

M. Vanzetti mentions a case of a pork-butcher, aged sixty-six, who, many years ago, had suffered from carotid aneurism, and had refused an operation at Ferrara. Having returned to his village in the Tyrol, his medical attendant subjected him for eleven months to Valsalva's treatment, after which a complete cure was effected.

Art. 176.—*On Naso-Pharyngeal Polypi.*

By Thomas F. Pick, F.R.C.S.

(*St. George's Hospital Reports*, vol. ii. 1867.)

Mr. Pick discusses the merits of five different methods of removing these dangerous growths: First, the plan adopted by M. Nélaton, of removing the tumour by the mouth. Second, that of M. Flaubert, by removing the whole superior maxillary, and the modifications of this plan; that by M. Maisonneuve, of removing only a part of that bone; that by Professor Langenbeck, of simply displacing a portion of that bone, and after the removal of the tumour replacing it and allowing it to unite; and that by M. Roux, of displacing the whole bone, and its subsequent replacement. Third, the method of laying open the cavity of the nose in various ways. Fourth, the removal by ligature; and fifth, causing sloughing of the tumour from the passage of a galvanic current. The author gives the preference to the second and third plans of operation—the fifth method being left still open for the results of a more extended experience.

Art. 177.—*On a new Mode of Treating the Conjunctiva.*

By Spencer Watson, F.R.C.S.

(*Medical Press and Circular*, April 15.)

At a meeting of the Medical Society of London, held March 30th, Mr. Spencer Watson exhibited some discs composed of cocoa-nut butter, mixed with tannin and other astringents for ready application to the conjunctiva; passed beneath the upper eyelid, they melt and diffuse over the whole conjunctival surface, they possess many advantages over lotions; and cases of pannus with granular lid have been much benefited by such treatment.

Art. 178.—*Contributions to the Treatment of Strabismus.*

By Dr. Schweigger.

(*Klinische Monatsblätter für Augenheilkunde*, vol. v. ; and *New York Medical Journal*, February, 1868.)

Dr. Schweigger relates three cases of strabismus convergens dependent on ametropia, in which he successfully undertook the restoration of binocular vision. In the first patient, nine years old, he began by using prisms, to excite and correct double images, then as latent hypermetropia became manifest, he directed convex glasses; these optical means were used diligently during several weeks. The deviation of the optical axes greatly abated, the control over each eye became better, and finally tenotomy of one internal rectus was done. The prisms and glasses were still employed, and perfect restoration of binocular vision in its fullest sense was accomplished. This case, and also the second, give occasion to some interesting observations on the physiological identity of the two retinæ, and Dr. Schweigger inclines to think that in strabismus, some other portion of one retina may assume vicariously the function of the *macula lutea*, and thus procure binocular vision.

The second case had hypermetropia of 1—9 and 1—10; and the second operation left a strong divergence, which continued for twenty-four hours. This, in place of resulting unpleasantly, not only disappeared, but was succeeded by convergence, which lasted a year, the patient using + 1—30 for near work. After that he came again to Dr. Schweigger, who ordered + 1—9 and + 1—10, which corrected the total hypermetropia, and then strabismus ceased. This degree of hypermetropia has a very important influence in determining the freedom with which tenotomy may be done.

The stereoscope was employed, and many interesting contrivances resorted to, indicating how much physiological optics enters into the treatment of strabismus.

Art. 179.—*On the Operation for Strabismus, and its After-treatment.*

By J. G. Hildige, F.R.C.S.I.

(*Medical Press and Circular*, March 18.)

Notwithstanding the almost mathematical accuracy with which the operation for strabismus has been treated of by German and English surgeons, it occasionally happens, no matter how carefully the operation may have been performed, that the degree of parallelism resulting from it is far from satisfactory, the eye either returning to its former position or tending to wander in the opposite direction. A secondary operation is just as liable to be attended with similar results, besides being in no small degree irksome to both patient and surgeon. Having experienced this in his own practice, Mr. Hildige has long been anxious to

discover a means of obviating it, and he now describes a mode of treatment which he has found to be attended with most excellent results. It consists in drawing with an extremely fine point of nitrate of silver perpendicular lines of about one-fourth of an inch in length between the angle of the eye and the margin of the cornea, on the side of the eyeball opposite to that towards which the eye tends to wander. For instance, if the internal rectus be the muscle which has been detached (strabismus convergens), and if the eye some time after the operation shows a disposition to return to its former position, Mr. Hildige draws the lines, two at the utmost on the conjunctiva, between the external angle of the eye and the margin of the cornea; on the other hand, if the eye wanders too much outwards after the detachment of the muscle and does not become parallel with the other eye after the expiration of the period allowed for the subsequent contraction of the wound, the lines are drawn on the nasal side of the eyeball, and in the same position as on the opposite side.

In order to explain more fully this mode of treatment, Mr. Hildige gives the details of two cases to which it has been applied with the best possible result.

Art. 180.—*A Modification of the Operation of Strabismus.*

By Dr. R. Liebreich.

(*Archiv für Ophthal.* xii. ; and *New York Medical Journal*, February.)

Dr. Liebreich proposes the following mode of operating; taking the rectus internus: to cut the conjunctiva with forceps and scissors at the lower border of the insertion of the tendon, to separate the conjunctiva and capsule from each other, to dissect up the membrane as far as the semilunar fold, also to lift the caruncle and make a complete separation from the deep-lying parts. Dr. Liebreich does not say how large must be the external wound, but it certainly cannot be less than 4‴ to 6‴ long. The conjunctiva is now completely loosened from the capsule of Tenon, and the tendon is open to view. Detach the latter from the sclera in the usual way without shortening it, and if a considerable deviation is to be relieved, make incisions into the adjoining connective tissue above and below. Finally, the conjunctival wound is united by sutures.

Art. 181.—*Operation for Divergent Strabismus.*

By Dr. Agnew, New York.

(*Annales d'Oculistique*, tome lvii. ; and *Edinburgh Medical Journal*, January, 1868.)

Dr. Agnew describes his method of operating for divergent strabismus as follows :—

He lays bare the internal rectus muscle and passes a ligature under it, which he ties round the tendon close to its insertion into the

sclerotic. The external rectus is now divided. He then returns to the internal rectus, and divides its tendon between the ligature and its insertion. By drawing the eye inwards he is now able to calculate what extent of the muscle requires to be removed to correct the divergence, and cuts off that portion, having previously introduced two fine sutures immediately posterior to the line of incision. By these sutures the extremity of the shortened muscle is attached to the conjunctiva close to the cornea. Thus the restraining band at the outer side (rectus externus), which prevented rotation inwards, is divided, and the shortened internal rectus so implanted in the globe as to enable it to act most effectually.

Art. 182.—*On Sympathetic Ophthalmia.*

By George Lawson, F.R.C.S.

(*On the Injuries of the Eye, Orbit, and Eyelids.*)

Mr. Lawson sums up his account of sympathetic ophthalmia in the following general conclusions :—

"1. That it is a peculiar inflammation of one eye, originating solely from an irritation in the other.

"2. That the most frequent causes of sympathetic ophthalmia are—

"(*a.*) Penetrating wounds of the eye, and especially those which involve the ciliary region.

"(*b.*) Foreign bodies within the eye.

"(*c.*) The irritation excited in the sound eye by degenerative changes taking place in the one already lost.

"3. That one of the great peculiarities of sympathetic inflammation is its tendency to the rapid effusion of lymph into all the tissues of the eye which it invades, capable of speedy organization.

"4. That the disease once started is very difficult to arrest; that it is recurrent in its nature; and that even if the first attack be arrested, a recurrence is almost certain to take place.

"5. That it is seldom, if ever, excited by a suppurative inflammation of the wouned eye.

"6. That the removal of the injured eye affords the best chance of arresting the disease; and if this operation is resorted to in its very early stage, there is a good prospect of its doing so.

"7. That if the symptoms of sympathetic ophthalmia are fully developed, the removal of the injured eye (the source of the irritation) may fail to arrest the disease, though it will afford a chance that should not be neglected.

"8. That in no instance have I ever seen sympathetic ophthalmia *originate* in an eye after the other had been removed on account of an injury. I have frequently seen it continue its course after the removal of the injured eye, but in each case sympathetic symptoms were manifested before the eye was removed. Hence the importance of diagnosing in what cases of injury sympathetic ophthalmia is likely to follow; and the necessity of at once excising such injured eyes as are prone to

produce it, and especially if they are already lost for all visual purposes.

"9. That in the treatment of sympathetic ophthalmia, any operation on the eye whilst it is inflamed is positively prejudicial; but that when all the activity of the disease has subsided, much may often be done by some operative procedure to regain for the patient some of the sight he has lost, and also at the same time to prevent a recurrence of the attacks.

"10. That in the early stage of the disease the tension of the globe is often increased to T + 1 or + 2; but that in the later stage the eye becomes soft from atrophy of the vitreous, causing a diminution in its consistence and bulk, and that this state is often followed by detachment of the retina."

Art. 183.—*Tubercle in the Choroid diagnosed during Life.*

By Soelberg Wells, F.R.C.S.

(*Transactions of the Pathological Society.*)

Mr. Wells exhibited before the Society a specimen of this rather uncommon affection, which, he said, had engaged more attention lately, seven cases had been narrated by Cohenheim; the case brought before the Society was, however, the first of the kind diagnosed during life in England. The patient suffered from acute miliary tubercle, with consequent emaciation and fever. The sight was good; but on examination by the ophthalmoscope, although the refractive media were healthy, sprinkled in the choroid, especially about the optic disc, a number of small greyish-white nodules were seen. There was no choroiditis. After death the lungs and kidneys were also found infiltrated with tubercular matter. The practical bearing of the case was on the possibility of discovering the existence of acute tuberculosis during life by means of the ophthalmoscope.

Art. 184.—*On a Case of Saturnine Amaurosis.*

By Dr. Haase.

(*Klin. Monatsbl. für Augenheilk.*, 1867; and *Edinburgh Medical Journal*, January.)

The patient was a landscape-painter, who used chiefly water-colours, and particularly one containing red lead. He enjoyed good health till 1860, when he had an attack of lead colic, which was cured in eight weeks. He was again attacked with lead colic in 1866, and for three days the pain was very severe. On the ninth day, as the pain diminished, he was suddenly seized with dimness of sight, which rapidly increased, so that next morning he was blind in both eyes. He was examined on the afternoon of that day, when it was found that he

could merely distinguish light from darkness. On ophthalmoscopic examination nothing abnormal was found beyond a slight congestion of the retinal vessels. The movements of the eyes were perfect. The gums were of a bluish colour, and the patient complained of a sweet taste in the mouth. He was subjected to local depletion by means of Heurteloup's artificial leech, and he was put on a course of opium. Under this treatment the sight gradually improved, so that in six days from the commencement of the attack he was able to read very large print. A sixth of a grain of morphia was now injected into the temples, and daily repeated, and at once rapid improvement ensued, so that in a week his sight was nearly restored (S. $= \frac{2}{3}$). Several months later vision remained the same, but he had insufficiency of the internal recti muscles, so that on attempting to work, fatigue very soon obliged him to desist. He was also unable to distinguish colours so well as before, and thus had to give up his occupation as an artist.

In most cases of saturnine amaurosis the sight quickly returns. Relapses, however, are frequent if the patient subjects himself to the poison. Tanquerel puts great faith in the use of opium in the treatment of this disease. In the present case the beneficial effects appeared more rapidly and more decidedly from subcutaneous injection.

Art. 185.—*Diseases of the Ear.*

Extracts from the Report of the Cases of Disease of the Ear, treated by Dr. Joseph Gruber in the General Hospital, Vienna, for the year 1866.

(*Präg. Vierteljahrschrift ;* and *Edinburgh Medical Journal,* April, 1868.)

For *Accumulation of Cerumen* in the external meatus, iodide of potassium was employed with glycerine to soften the mass, when too hard to get away by syringing alone ; and for a considerable time after the wax was removed the same was applied by means of a brush to the walls in order to prevent its too free secretion.

Inflammation of the External Meatus was found generally to be caused by cold, and frequently it followed wrong treatment of toothache—*i.e.,* medicaments applied to the meatus itself. The treatment employed was early and free incisions through the soft parts down to the bone, after which warm water was syringed in to aid the bleeding. This procedure lessened the pain at once, and generally prevented suppuration.

Perforation of the membrana tympani often followed this affection, but the aperture always healed up. Several cases ended in opacity of the membrana tympani, with deafness resulting, and in such Dr. Gruber used resorbent ointments, as iodine, in the neighbourhood of the ear, after the acute stage was past. Concretions formed on the membrana tympani in two cases without interfering in any special manner with the hearing.

Chronic Inflammation of the External Ear, accompanied with granula-

tions in the meatus, were treated by tents of laminaria, which dilated the meatus, and permitted of the local application of medicaments.

Acute Inflammation of the Membrana Tympani was always ascribed to cold. Feverish symptoms accompanied this affection. Perforation of the membrana tympani always followed, and once its complete destruction occurred. Local blood-letting was employed during the acute period; and for the otorrhœa which resulted, zinc solution was dropped in. In two cases an irregular opacity of the membrana tympani was observed.

In Chronic Inflammation of the Membrana Tympani, it was as a rule very much thickened, and so covered with granulations that the malleus was hardly visible, hearing was impaired, singing present in the affected ear, and otorrhœa followed. In weakly patients, the disease had a tedious course, and generally developed itself out of previous painful inflammations of the ear, the peculiar nature of which was not well made out. Treatment was symptomatic; the granulations were occasionally touched with nitrate of silver; for profuse otorrhœa, astringents were dropped in; and for the thickening of the membrana tympani, resorbent ointments were employed.

In Thickening of the Membrana Tympani, painting over it with glycerine, iodide of potassium, and iodine was resorted to, and the hearing was often greatly improved. In cases of loss of substance of the membrana tympani, Gruber often obtains healing by making eight, ten, or twelve small incisions or nicks round the margin of the opening, the contraction of which in cicatrizing fills up the aperture.

Abnormal Adhesions of individual parts of the membrana tympani to the walls of the tympanic cavity were freed by the use of the air-douche applied through the Eustachian tube.

Acute Catarrh of the Middle Ear was observed in connexion with long-standing catarrh of the nasal mucous membrane, hypertrophy of the tonsils following scarlet and typhus fevers, and occurring during the course of phthisis pulmonalis. The catarrh had occasionally caused perforation of the membrana tympani. In cases where nasal catarrh was combined with this affection of the ear, Gruber introduced astringents through the nose by means of a glass syringe, and then caused the patient to expire forcibly with mouth and nose firmly closed, by which means a portion of the fluid found its way into the Eustachian tube. Astringents and other remedies were also applied directly to the tympanic cavity *viâ* the Eustachian tube.

Chronic Catarrh of the Middle Ear was found in connexion with hypertrophy of the tonsils, chronic nasal catarrh, syphilis, or consecutive, as in the case of the acute scarlet fever and typhus; and lastly, in some patients where no special cause for disease of the ear could be discovered. Perforation of the membrana tympani frequently occurs, its seat being generally in the lower part of the membrane. In cases where the Eustachian tube was found to be narrowed, bougies of laminaria were employed to overcome the stricture. If the perforations already existing in the membrana tympani were not sufficient to allow of free exit for the discharge, he enlarged them by incision; and in all cases where two apertures were united by a "bridge" of membrane, the latter was divided to favour healing.

The singing in the ears which often accompanied this affection frequently continued, defying all treatment; while at other times it disappeared, as it seemed, spontaneously.

Polypi were found to proceed in all cases from the mucous membrane of the tympanic cavity. In every case they were removed by means of Wild's snare. Their return was frequent, from the roots again growing, notwithstanding all endeavours to destroy the latter by means of caustics. The persevering injection of astringents was found to do good more frequently than the use of escharotics.

Stricture of the Eustachian Tube was as a rule found to remain behind after chronic catarrh. The membrana tympani in these cases was slightly opaque, and deeply drawn in against the inner wall of the tympanic cavity (cupped). Noises in the ears were present in many cases, but not all prominent in others. Treatment consisted in the introduction of bougies of laminaria, with at a later period injection of solution of iodide of potassium, and when considerable swelling of the mucous membrane was present, astringents.

In a case of *Caries of the Mastoid Process*, which occurred in a patient suffering from severe tubercular disease, of which he ultimately died, the facial nerve was found in the Fallopian canal, soaked in pus, and partially destroyed.

In another case there was exfoliation of a large piece of the mastoid process. The facial paralysis which occurred during the course of the disease disappeared of itself, and the patient recovered.

Nervous pain in the ear has only in a single case been unaccompanied with carious teeth. It got better under the use of veratria ointment.

Art. 186.—*Removal of Foreign Bodies from the Ear.*

By Jonathan Hutchinson, F.R.C.S.

(*Medical Times and Gazette*, March 7.)

Instead of trying the disappointing plan of syringing, or the dangerous use of forceps or scoop, let the surgeon take six inches of fine wire and double into a loop; then, having the patient placed on his side, pass the loop into the ear as far as it will go, and turn it a little gently. At the first or second withdrawal the foreign body will come out in the loop. The wire being flexible gives no pain, and cannot possibly do damage. It is almost certain to find its way round the foreign body, however deeply the latter may be placed, or however closely it may fit the cavity. Mr. Hutchinson asserts in its advocacy that it is very much easier to use, very much safer, and lastly, that he has several times succeeded with it in cases where other means had utterly failed. The scoop he regards as especially likely to do mischief, since it involves pressure against the wall of the auditory canal. There is in the London Hospital Museum part of the temporal bone of a child who died in consequence of a small bean having been forced by the scoop through the membrana tympani into the inner ear.

ART. 187.—*Successful Removal of a Degenerated Parotid Gland (Fibroma Parotidis), by means of the Ecraseur, without previous Ligature of the great Arteries of the Neck (the Carotids).*

By Dr. IWAN MINKEWITSCH.

(*Virchow's Archiv*, No. 43, 1868.)

The patient was a man aged forty-seven years. About fifteen years previously he noticed for the first time by chance that there was a small swelling in the region of the left parotid, the originating cause of which was unknown. For the first thirteen years this swelling increased in size very slowly, but afterwards, and particularly during the last two years, enlarged very rapidly. At first the tumour was quite painless. From the commencement of June, 1863, rapidly passing pains of a stabbing character came on in consequence of frequent handling and examination of the tumour; the pains at first were of occasional occurrence, but subsequently increased in frequency.

The following was the previous history of the patient:—From 1846 to 1851 he suffered from several attacks of intermittent fever. In 1850 he was affected with a chancre, which was treated by the internal administration of mercury; after a small quantity of this had been given, severe mercurialism was developed, which presented itself chiefly as an affection of the teeth and gums. No secondary symptoms followed. In 1856 the man had an attack of gonorrhœa. In 1853 there was for the first time hæmorrhage from the rectum, which in 1863 was associated with a prolapse of some swollen hæmorrhoids.

The general condition of the patient before the operation was perfectly satisfactory. The tumour was situated in the left parotid region, its length being seven centimetres, and its breadth five and a half centimetres. Its upper end corresponded to the incisura intertragica, and its upper portion completely covered the lower part of the external ear; the lowest margin extended below the angle of the lower jaw; the anterior margin extended over the left cheek. The posterior part of the tumour was especially developed, and was of a conical form; with the exception of this part there was no great prominence of the tumour. The stain covering the morbid growth was, over most of its extent, of a dark colour, which was partly due to the frequent application of plasters and ointments used as means of treatment. The skin was not adherent. The posterior elevated portion of the tumour was soft in comparison with the remaining parts, and manifested a feeling of false fluctuation. The tumour was not in close union with the tissues beneath it. At its lower margin could be felt the pulsations of the carotid artery. The facial movements and those of deglutition and respiration were normal.

On March 10th, 1864, the patient was put under the influence of chloroform. A crucial incision was made over the prominent part of the tumour, and the integument dissected away from its surface, particularly behind. This was done to such an extent that the chain of the

écraseur was fitted to the tumour without disturbing the position of the adjacent vessels. The middle of the chain was applied to the hinder part of the growth. Through an opening made in the front of the capsule of the gland the crushed tissue was forced out both as a thick semi-fluid mass and in pieces, according to the traction on the chain. The anterior portion of the tumour was removed by the écraseur, and the rest by the finger of the operator; and Dr. Minkewitsch finally satisfied himself, both by sight and feeling, that the whole of the morbid growth had been taken away. To counteract the bleeding, which was very slight, small balls of charpie moistened with a solution of perchloride of iron were pressed into the cavity of the wound; these were covered by a layer of dry charpie, and over all by strips of plaster and a bandage.

The operation was retarded for a time by an attack of asphyxia, caused by the administration of an excessive amount of chloroform (one ounce was given). The patient became blanched, the pulse veered from 45 to 47, and the respiration was slow. Although the crucial incision was made below the centre of the tumour, the mouth after the operation was drawn over to the right side.

In the first two days after the operation the patient suffered from nausea, vomiting, pains in the digestive region, a burning sensation at the scrobiculum cordis, and aching over the whole body, and particularly in the lower limbs. On March 12th, most of these symptoms disappeared, but were followed by pain in the wound and swelling of the left cheek. On March 15th, the general condition of the patient was normal—temperature 32·2 C., pulse 72. The surface of the wound was found to be covered by an eschar formed by the action of the perchloride of iron. Beneath this a quantity of pus had formed, a considerable quantity of which flowed away after an incision had been made. By this the patient was much relieved. On March 17th, the eschar was detached from the wound, which was now granulating favourably. The lower and posterior flap had sloughed, and was now attached only by a small piece of membrane. The wound is perfectly clean and sensitive, the suppuration copious, but of a healthy character; granulations of a bright red colour.

March 25th: Wound filling with granulations, already healed at its circumference. Patient complains during deglutition of pain under the ear, behind the temporo-maxillary joint, and also of toothache on the left side of jaws. The upper and lower teeth are loose, especially those on left side. Patient complains also that the teeth are set on edge.

April 3rd: The wound has been gradually healing, and is now much reduced in size. On June 20th, the patient was discharged in the following condition: He feels himself in perfect health; the dragging of the mouth to the right side is so slight that it can be perceived only when the man smiles. The cicatrix is thin and ⊣ shaped, and the structures around it are not indurated. The lobule of the ear is dragged downwards. The patient can open his mouth as well as he could before the operation. The aching of the left upper and lower teeth is not so severe; the teeth are loose. Deglutition and respiration are unimpaired. Hearing is as perfect as before the operation.

Remarks.—Dr. Minkewitsch has examined the memoirs of the Society of Surgery of Paris, the works of Chassaignac, and the hand-book of

Professor Bruno, of Tübingen, which contains one of the best monographs on the disease of the parotid gland, but has not succeeded in finding any case of parotid tumour treated by the application of the écraseur. The favourable results of this case Dr. Minkewitsch attributes to the action of the écraseur. In consequence of the compression of the tumour, the parts below as well as those above the chain are crushed, and the connexion between the gland and its capsule is broken down. The parts not included within the chain were subsequently removed with ease by the finger.

This case adds another to those of operations of this nature which have ended favourably without previous deligation of the carotid. By the slight bleeding in this case it is proved that the larger arteries were under the enlarged gland, and do not pass through it.

There was considerable febrile disturbance after the operation, the pulse was highest on the second evening, when it reached 102; it rapidly fell on the following morning to 88, and on that evening it was only 82. This favourable change was attributed to the simultaneous administration of digitalis and ergot of rye in large doses. The affections observed in the upper and lower jaws of this patient were remarkable; these were pain and loosening of the teeth, chiefly on the side of the operation. There was also deafness. Symptoms of this kind have rarely been observed after removal of enlarged parotid. The usual affections are pain below the ear during mastication, and dragging of the mouth to the opposite side. These occurred also in Dr. Minkewitsch's patient. The slight extent of the oral paralysis pointed to injury of only a few inferior branches of the facial nerve. The affections of the jaws and teeth were due to a lesion of the neighbouring twig of the fifth pair, which had probably undergone some irritation. As the wound healed all these symptoms gradually abated.

Art. 188.—*On the Cure of Cleft Palate by Operation in Children, with a Description of an Instrument for Facilitating the Operation.**

By Thomas Smith, F.R.C.S., Assistant-Surgeon to St. Bartholomew's and the Children's Hospitals.

(*The Lancet*, January 25.)

The author's object in presenting this paper is to communicate to the Society a plan of operating on clefts of the palate, applicable to all who suffer from the deformity, but especially to children, to those deficient in physical courage and in the power of enduring pain. No attempt is made to improve on the principles of staphyloraphy as laid down by Sir William Fergusson, though slight and inconsiderable modifications in that gentleman's practice are advocated, as more suited to the tender age of the patients for whom the plan in question is specially designed.

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* Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society, held January 14.

The chief novelty in this proceeding is that chloroform can be employed. A painless and speedy operation can therefore be performed, and that with more precision and a greater prospect of success than when the operator is dependent upon the self-control of the patient; while from the painless nature of the operation, the cure of cleft palate can be effected in children, to whom formerly the benefits of staphylography were virtually denied. The author discusses the probable advantages of the performance of the operation in early life, though he waits for a larger experience to fix the particular age at which it is best to attempt to cure the deformity. The plan of operating recommended depends chiefly for its success on the employment of a gag, whereby the tongue is depressed, the jaws can be opened and fixed, and the orifice of the mouth enlarged. This is adjusted when the patient is under chloroform. The modifications of the ordinary operation as suited to the insensibility of the patient are described. They consist chiefly in avoiding any considerable flow of blood until the very last step in the operation has been accomplished. The author recommends for children the employment of fine fishing gut and and horsehair as the best materials for suture, and describes certain modifications in the ordinary shape of the needles employed and the manner of passing the sutures, which simplify and expedite the operation. The conclusions in the paper were supported by cases. Finally, the author stated that he trusted by the lapse of time and further experience to be able to determine the age at which an operation should be done, and the effect of an early operation on articulation and vocal resonance.

Appended to the paper were the accounts of eleven cases where the operation for cleft palate had been performed in the manner recommended by the author—that is, with the aid of a gag and under chloroform. In eight of these cases the operation was successful; three were failures. No operation had been attempted on the hard palate, though in nine of the cases the deformity involved the bony palate to a greater or less degree. The author expressed a belief that it would in many instances be unnecessary to perform any operation on the bony palate if the cure of the soft parts were effected in early life. In support of this belief he adduced three cases of operation where the soft palate only had been united, and where the hole remaining in the roof of the mouth had gradually contracted to very small dimensions. Sufficient time had not elapsed since the operation in the author's cases to allow him to speak authoritatively on this subject. An easy method of fastening gut sutures without cutting the gut was described. Children were exhibited on whom the operation had been successfully performed, and one adult was also present whose palate had been united by operation under chloroform. The author recommended the use of the gag and chloroform for adults as well as children in the performance of this operation. Though the effects of the operation in children on the powers of articulation had been at present highly satisfactory, the author abstained from making any definite statement on this subject, waiting rather for the lapse of time and additional experience to furnish fuller information.

Art. 189.—*Case of Severe Neuralgia of the Tongue, Cured by Excision of a Portion of the Lingual Nerve.*

By Dr. Vanzetti, of Padua.

(*Gazette des Hôpitaux,* No. 8, 1868 ; and *Edinburgh Medical Journal,* April.)

P. M., æt. sixty-four, mother of twelve children, complained, in January, 1866, of intense pain in the left half of the tongue. It was thickened, and there was in it a peculiar pricking feeling, while the slightest movement in eating, drinking, or speaking caused intolerable agony. The use of morphia and hypodermic injections during a month did no good. The patient could never sleep for an instant, and dared not eat on account of the intolerable agony. Opium, oidine of potassium, arsenic, ice, acupressure, local anæsthesia by ether, electricity, &c., were all tried without success. Remembering that on a previous occasion the patient had been cured of a severe pain in her tongue and lower jaw by an incision along the side of the tongue, Dr. Vanzetti made one along the whole left side of the tongue. This gave considerable relief for a fortnight, at the end of which time the pain returned with redoubled vigour, and over a larger area, now being felt in side of jaw, ear, and side of neck. She pressed for more decisive treatment, and it was determined to excise a portion of the lingual nerve. This was done. The tongue was pulled well forward, and an incision was made between the gum and tongue from the last molar forwards. By a careful dissection, the nerve was exposed as far back as the edge of the internal pterygoid muscle, and nearly an inch of it was removed. The pain ceased from that moment; and when last the patient was heard of, sixteen months after the operation, the pain had not returned. She was at that date unable to distinguish the taste of quassia from that of sugar on the left side of the tongue, and the common sensibility of the part was much diminished. M. Vanzetti refers to the researches of Messrs. Hilton and Moore on this subject.

Art. 190.—*On the Operative Treatment of Cicatricial Contraction of the Jaws.*

By Professor G. Jasche, of Nischni-Novgorod.

(*Langenbeck's Archiv,* 1867 ; *Schmidt's Jahrbücher,* No. 1, 1868.)

The subject of this contribution was a peasant girl whose jaws, in consequence of destruction of part of the right cheek and the gums on the right side from gunshot wound, were held in close contact by a cicatricial band extending from the angle of the mouth to the masseter muscle. Dr. Jäsche incised the right cheek from the angle of the mouth to the front of the masseter, and removed the cicatrix ; the jaws were then separated by means of a lever, and, together with the edges of the wound, were kept apart during investigation by an apparatus formed of two iron arches of an horseshoe shape, and furnished with flattened grooves for

the reception of the teeth. The ends of these arches were connected by hinges, and at their centres worked a screw, with which they could be separated. After cicatrization, two incisions were made, each one being about 4‴ from each edge of the cleft in the cheek, and carried through skin and cellular tissue until they met over the masseter muscle at its anterior border; the skin was then dissected and loosened towards the eye at the lower edge of the inferior maxilla, and brought together by suture, so as to cover the deficiency in the cheek. The movements of mastication were subsequently performed in order to counteract the cicatricial contraction of the raw inner surface of the newly-formed cheek. The result of this treatment was very successful. Dr. Jäsche prefers this method for cases of immobility of the jaws not dependent upon ankylosis of the joint, to division and resection of the inferior maxilla proposed by Esmarch and Ruzzoli.

Art. 191.—*On Thrombosis from Arteritis of the Basilar Trunk as a Cause of Rapid Death.*

By M. G. Hayem.

(*Archives de Physiologie Normale et Pathologique*, No. 2, 1868; *Gazette Hebdomadaire*, No. 14, 1868.)

The numerous works that in late years have dealt with the study of arterial changes in cerebral affections, have shown the importance of every particular relating to the seat, the progress, or the termination of arteritis, and, as M. Hayem remarks, in a great number of questions relating to the pathology of diseases of the encephalon, and principally in the study of ramollissement, attention ought at once to be directed to the organic starting-point, that is to say, the vascular lesion.

Two interesting cases of rapid death from obliteration of the basilar trunk are reported by M. Hayem. They both present striking analogies. The patients were both females; the age of one was thirty-three years; of the other, fifty-two. No complete histories could be obtained of these two cases; both women died very suddenly with symptoms of intense apoplexy, and nothing was found to account for death save thrombosis of the basilar artery.

After a complete anatomical examination had been made, it was observed that the walls of the basilar artery were the seat of very characteristic changes, which may be shortly described in the following manner:—

At one point in the wall of the vessel there was developed a thickening considerable at its centre, and with diffused margins. This thickening involved all three tunics, but the internal one particularly, or more precisely, the deep part of this membrane.

At the level of this swelling, the adventitious coat was abnormally vascular; in one of the reported cases, large vessels could be seen with the naked eye. The artery was embossed on its exterior, whilst its calibre was diminished; it looked white, opaque, horny; its consistence was firm, like fibro-cartilage. On transverse section the thickened part was seen

to be five or six times larger than the opposite side of the artery, and on pursuing the examination, it was found that the excised slice was made up of a series of layers which were apparently separated by exudation. These layers pushed inwards the internal and slightly extensible membrane, and then after causing its rupture, mixed with the blood passing by the rent, and set up coagulation. If more minute investigations be made in cases of this kind, the pre-existing elements may be seen in all parts, enlarged by a granular exudation, and possessing abnormally two, three, or even a greater number of nuclei, and externally to these elements a profusion of new elementary forms. Thus there is interstitial exudation and multiplication of the elements of the vascular walls. Though this process is an inflammation of the vessels, it is not simply an endo-arteritis or peri-arteritis; the pathological changes extend over the three vascular tunics, presenting among other characters special alterations in the middle coat. In fact, the middle coat is the seat of an abundant multiplication of new elements, and the smooth fibres themselves take part in this new formation. It is by this character that the present variety of lesion differs from that accompanying endo-arteritis or even meso-arteritis, and from the hypertrophy of the middle tunic from transformation of the muscular elements in the connective tissue described by Langhaus.

Thus from an anatomical point of view, there is presented in these instances a form of arteritis remarkable from its being seated in the three coats, and from the undoubted inflammatory nature.

These facts taken in connexion with some cases of plugging of the basilar artery, reported by MM. Velpeau, Martineau, and Lancereaux, lead to interesting clinical conclusions, as that the arrest of the circulation in the trunk of the basilar artery quickly leads to serious disturbances in the cerebral circulation, and consequently to rapid death; but for this latter result to be brought about, obliteration must be as it were instantaneous.

Art. 192.—*On Exostosis of the Skull.*

By Prescott G. Hewitt, F.R.C.S., Surgeon to St. George's Hospital.

(*St. George's Hospital Reports*, vol. ii., 1867.)

This paper consists mainly of an enumeration of specimens in different museums, and of the relations of operations performed by others in such cases, but the author alludes only in a cursory way to the results of his own experience. As to operative interference, Mr. Hewitt says, it should be laid down as a rule that we are not to operate upon a cranial exostosis unless compelled to do so, either by its increasing size or the peculiarity of its position. And in taking into consideration anything like operative interference, especially should we bear in mind the great doubt which must necessarily exist as to the exact limits of the growth; how deep it may extend; the great difficulty we may, and in all probability shall have to encounter from the peculiar hardness of the

bone; and lastly, the risk of our efforts being followed by intercranial mischief of a deadly nature.

Two instances are related in which the application of caustics was successful, and the tumours sloughed off, after operations had been attempted in vain for their removal.

Caustics may then be of the greatest service in the removal of even the hardest irony tumours. And when applicable, there is no doubt that they alone are sufficient to bring about the death and sloughing-off of very large exostosis. But in the application of these caustics great care must be taken. In speaking of the removal of exostosis by the chisel and mallet, Mr. Hewitt says that if such means were resorted to, it would be advisable to attack the bone around the exostosis, and not the exostosis itself: but in applying caustics the opposite course must be followed; the caustic must be applied to the exostosis itself, at a short distance from the mother bone. By proceeding thus, the chance of intercranial inflammation, which might be produced by the free application of caustics upon the skull itself, may be avoided.

Art. 193.—*On Trepanning for Primitive Affections associated with Fractures of the Cranium.*

By M. Tillaux.

(*L'Union Médicale*, No. 37, 1868.)

M. Tillaux communicated to the Société Impériale de Chirurgie the reports of two cases which seemed to be of great interest, as serving to elucidate the obscure and disputed question of the application of the trephine for primitive affections associated with fractures of the cranium.

When, states M. Tillaux, a fracture of the cranium, with or without a wound, is accompanied by such phenomena as general loss of power, coma, &c., surgeons in cases of this kind are unanimous in their rejection of the trephine. But the really doubtful case is the following. A patient presents a fracture of the cranium with a wound of the integument; he preserves his consciousness and replies to questions addressed to him; but he is affected with a complete or incomplete hemiplegia on the side of the body opposite to that of the lesion. Thus, there is evident fracture of the cranium, the precise seat of which is known, with paralysis of the opposite side; the brain is undoubtedly compressed either by fragments or by an effusion of blood. What ought the surgeon to do? Ought he trepan in this case in which the indication seems to be so clear? In other terms, even in a case so apparently favourable for the application of the trephine, is it always possible to determine both the agent compressing the cerebrum and the exact point at which this compression is exercised?

M. Tillaux shows by two unquestionable cases that this precision, requisite for the application of the trephine, does not always exist in practice. The first case was that of a man who received a fracture of the cranium and a wound of the head in falling from a lofty place. On his entrance into the hospital, December 27th, 1865, he was in a state of

somnolence and torpor; he answered, however, questions put to him. He remained in nearly the same condition for a few days after; micturition was normal, and mobility and sensibility were intact. On January 1st, there was marked amelioration; the patient opened his eyes and replied well when questioned. A few hours afterwards he was found dead in his bed.

At the autopsy there was discovered a fissured fracture of the cranium, commencing about two centimetres externally to the superficial wound, continued obliquely along the right parietal bone, and ending at the occipital foramen, after passing behind the mastoid bone, which was intact.

The capital lesion was a blood-clot placed over the lateral part of the cerebrum, in the region of the temporal fossa, and between the dura mater and the vault of the cranium; it measured four centimetres in diameter, and nearly a centimetre in thickness.

To M. Tillaux it seems certain that death was brought about in this case by the rapid formation of the clot in the right temporal region. If this clot had been formed more slowly, and the patient had survived with hemiplegia on the left side, the surgeon might have considered the application of the trephine. If this had been made according to indications on the part of the cranium corresponding to the superficial wound, the compressing agent would certainly not have been met with, since the clot was placed at such a distance that it was impossible to reach it; the operation to a case of this kind would have been useless.

In the second case, still more worthy of remark, the patient presented a fracture of the cranium with a fragment slightly depressed, and a wound in the integument. The patient soon recovered partially his intelligence and the power of speech. But a debility of the whole side of the body opposite to that of the fracture, soon came on. Indications for the use of the trephine could not be more precise, and M. Tillaux would have taken this treatment into serious consideration if the patient had not succumbed to purulent infection. At the autopsy, however, it was demonstrated that the operation could only have added to the bad results of the cranial lesion, since the hemiplegia was due neither to depression of the fragments nor to splinters of the vitreous plate, but to the presence of a clot which, from its situation, size, and the extent of its adhesions, was inaccessible to trepanning.

M. Tillaux concludes that the application of the trephine for the primary bad results of fracture of the cranium, is a great question which remains to be resolved by clinical observation.

(B) CONCERNING THE TRUNK.

ART. 194.—*Removal of Stone from the Human Bladder.*

By JOHN BIRKETT, F.R.C.S.

(*Guy's Hospital Reports*, Third Series, vol. xiii.)

In this paper Mr. Birkett gives the results of the operations for the removal of stone from the human bladder, performed in Guy's Hospital

during the last ten years—viz., from 1857 to 1866 inclusive. The number of patients who submitted to a surgical operation was 162.

Of these 160 belonged to the male sex: two were females.

The youngest was just one year old; the oldest had reached seventy-seven years.

Out of the total number of 162 cases 137 recovered from the operation performed upon them, and of these 134 were cured; twenty-five died. The remaining three were not cured; but of these patients further details will be stated. These were all males.

The two females were cured, the stone having been crushed in both instances.

Or thus briefly stated:

Males	Cured	132
	Died	25
	Not cured	3
Females	Cured	2
	Total cases	162

The following are the conclusions at which Mr. Birkett has arrived:

1. That after an examination of the gross total of the hospital cases submitted to an operation for the removal of a stone from the bladder, the treatment may be regarded as successful in a general point of view.

2. That in the early periods of life, before puberty, lithotomy may be performed with almost a certainty of success.

3. That the operation for the removal of a stone from the bladder of adult patients admitted into hospital is attended with increasing risks to life as age advances.

4. That the adult patients afflicted with stone do not generally seek the surgical assistance provided in an hospital until after the disease has existed for many years.

5. That in consequence of that delay many cases are precluded from the advantages derived from the operation of lithotrity.

6. That upon adults the operation of lithotrity was more frequently performed than lithotomy.

7. That lithotrity, in select cases, was a successful operation.

8. That in the class of patients operated on, lithotrity was followed by active organic disease of the kidneys, which was the cause of death.

9. That the risks of both the operations increase in proportion to the length of time the stone has been forming in the bladder.

10. That the mere fact of the duration of the disease does not preclude a successful result after lithotomy.

11. That the immediate cause of death after lithotomy is disorganization of the kidneys and the effects thereof.

12. That lithotomy may be attended with success, in some cases, when lithotrity, from specific local conditions, is not practicable.

13. That patients cured by lithotrity were able to leave the hospital sooner than those upon whom lithotomy was performed.

Art. 195.—*On Lithotomy by a Semilunar External Incision.*

By Sir William Fergusson, Bart., F.R.S., Sergeant-Surgeon to the Queen.

(*The Lancet*, January 4, 1868.)

Sir William Fergusson thinks it worth while to call the attention of his professional brethren to this operation, from the conviction that it deserves trial, and with a hope that it may in some degree simplify, in regard to performance and danger, one of the most formidable and interesting operations in surgery.

The performance differs from the ordinary method only in the external incision, but a short description may be desired. The staff being introduced, the patient is to be bound and held in the ordinary way. The usual lithotomy knife, like a scalpel in a strong handle, is to be held in the right hand with its cutting edge directly upwards; the point is then to be introduced into the skin on the right side of the perineum, midway between the anus and the tuberosity of the ischium and a little lower than the anus. It may be inserted a quarter or half an inch deep; and by a pushing or gliding movement upwards, the right side or end of the semilunar incision is made, then the curve, and then the slope on the left is completed. During the movement the knife is gradually turned round with the hand, whose radial margin, from being first turned downwards, is ultimately upwards. A second similar sweep, with the extreme ends not so deep, should next be made, when the fore and middle fingers of the left hand should be pushed into the wound between the bulb and rectum, with the intention of separating those parts; it will then be found that the anus and rectum can be depressed with peculiar facility. Now too with possibly a touch or two in the middle part of the wound, it will be found that the finger readily slips into the space between the erector penis and compressor urethræ; and the staff may be felt through the tissues between them and the membranous portion of the urethra. By a dexterous push, the point of the knife may be introduced into the groove, or perhaps a little further cutting may be used to divide a portion of the lower margin of the triangular ligament and part of the levator ani, or these may be divided in withdrawing the knife. The point of the blade should be pushed along, say one-half of the membranous portion of the urethra, into the prostatic portion, so as to notch or cut freely the left lobe of this organ, or the latter may be done in withdrawal. Should the gorget be preferred, it may be used after the opening has been made in the membranous portion. The subsequent steps are the same as in the ordinary lateral operation, excepting that the forceps may be held more to the right, and withdrawn through the middle of the perineum, instead of the left side, as in the common way. Should the stone be large, the right side of the prostate can be more readily reached through this wound than through the lateral, and the good rule of pulling obliquely downwards in extracting can be more efficiently accomplished than through a wound in the side.

The after-treatment is in all respects as in the usual operation, a tube

being used or not, in accordance with fancy or fashion. The skin in front of the perineum immediately behind the scrotum being left entire, the wound is scarcely observable as the patient lies on his back.

There is no evil in the semilunar incision, Sir William says, greater than that of the lateral; on the contrary, there seems to him less. For in this central locality there is in reality no vessel, nerve, or part to demand the surgeon's caution; the bulb and rectum are certainly in no greater danger, and assuredly the common pudic and its perineal or scrotal branches are in less. The great peculiarity of this semilunar incision, however, is that it gives such an extensive external opening beyond what in this locality any single straight line would. The gap opens something like the clasp of a purse's mouth; and the points of two or three fingers can be placed in it at once, so as to depress the anus and lower part of the rectum, and permit the knife to be freely used between the bowel and bulb and on the lower part of the triangular ligament. With sweep after sweep of the knife in the semilunar direction, a close proximity with the bladder will have been made, and now the operator may take his choice as to the steps of the future stages of the operation.

Art. 196.—*The Diagnosis of Obstructive Disease in the Rectum.*

By C. F. Maunder, F.R.C.S. Eng., Senior Assistant-Surgeon to the London Hospital.

(*The Lancet*, May 9.)

It not unfrequently happens that intestinal obstruction is caused by disease of the rectum, which cannot be felt by the finger introduced per anum, and consequently the surgeon is compelled to form his opinion upon the seat of obstruction by less certain signs and symptoms, and he may indeed feel it to be his duty to perform colotomy under such circumstances.

Two years ago when about to perform colotomy on a male, it occurred to Mr. Maunder that he might be able to determine the precise seat of obstruction by the introduction of the hand into the rectum. He attempted this, but failed; the hand would not pass through the anus. He was not much surprised at non-success in the case of a male, and waited an opportunity of testing this method in the female. The occasion presented itself at the end of March in the person of a patient the subject of obstruction. The finger in the rectum just reached something abnormal; but as the examination was not perfectly satisfactory, chloroform was administered, and then the left hand being well oiled, he passed it, obstetric fashion, into the bowel as far as the knuckles. Mr. Maunder was now able to determine the nature of the obstruction with precision, and had no hesitation in performing colotomy.

Mr. Maunder adds that a good deal of prejudice against this operation exists both in and out of the profession. This is very much to be regretted, because in properly selected cases immense relief to suffering

is afforded, and a present miserable existence rendered quite tolerable after.

The operation is performed with comparative ease, and with little risk to life, as may be presumed from the fact that Mr. Maunder's patient, who is nearly *seventy* years of age, and who underwent Amussat's operation more than five weeks ago, has not exhibited a single untoward symptom, and is indeed convalescent.

Art. 197.—*On Lithotrity—the Age of the Patient.*

By Sir William Fergusson, Bart., F.R.S.

(*Lectures on the Progress of Anatomy and Surgery*, 1867.)

"LECTURE VIII.

"Age seems to me to form a most important element, particularly in the male. It may reasonably be doubted if better can be done before fifteen than cutting for stone. The success of lithotomy in young subjects is probably greater than could be secured by lithotrity in similar cases. Taking my own experience, announced last year, of only two deaths in fifty operations, I have no hesitation in stating my conviction that I could not have had equal success with lithotrity in these cases. In some the process would have been well-nigh impossible, as with stones of large bulk; for here the diameter of the urethra would have precluded the use of a lithotrite of sufficient power. Looking to the size of the urethra in the male before puberty, its length, its irritability; the comparative irritability of the bladder and of the subject generally; and I may add, the conical shape of the bladder, whereby there would be a greater tendency to blockage and retention than in the adult, I feel justified in stating that where the operation might require repetition, it would certainly, although ever so successful, be attended with an amount of distress to the patient, and probably trouble to the surgeon, far greater than any supposed advantage. I confess, however, that I do not think this question has been investigated. Until within these few years, there were no instruments that could have been used in such cases. To the best of my knowledge there were none such as I displayed in the theatre last year; but if blades like these (showing a variety) would be brought against small stones, such as are usually found in young persons, so as to effectually crush them to sand, I believe that this operation might after all be found more generally applicable in children than it is usually deemed. As an adjunct to this kind of practice, chloroform would be indispensably necessary; without it the needful quietude would not be secured.

"THE LITHOTRITE.—LECTURE IV.

"The modern lithotrite, particularly of the best English makers, is a very superior instrument to those in former use; and less force is required to break an ordinary stone than was imagined. We seldom hear of an instrument of the kind either bending or breaking; and in the course of time I have come to the conclusion, that one of small diameter

permits of more ready manipulation than where the size is such as to fill, and be in a manner grasped by the urethra. Hence then I have for many years employed lithotrites of smaller diameter than those in common use. An objection to small sizes has been made because when the bladder is irritated to spasm the water escapes, whereas it would not if the urethra were filled (plugged) by a large instrument; but the escape can readily be prevented, if desirable, by grasping the penis with the fingers and thumb. Even in regard to the quantity of water required in the bladder during the operation, I believe that there is no such necessity for a large amount as some have imagined. When the organ is distended with eight, ten, or twelve ounces, the stone is usually more difficult to be caught than when the quantity is smaller. The slightest touch causes it to move where there is a large amount of fluid, and fragments are certainly much more difficult to be detected and seized. No doubt it is unwise, even dangerous, to open the blades of a lithotrite freely in an empty bladder, or one with very little water in it; but I have long been convinced that there is no need for the presence of so much fluid as some have thought.

"The chief objections that I myself have found to very small-sized lithotrites or scoops are, the comparative difficulty of passing them into the bladder, and especially the comparative difficulty of sounding for fragments. In the finer manipulations of the sort it is hard to say whether the sense of touch or of hearing is of the greatest value. I am almost inclined to give the ear the preference; but even with this it is of the greatest consequence that the utmost facility of movement should be permitted, and hence I am averse to the use of the sounding board, as recommended by Mr. Brooke and others, as also to the use of instruments which fill up the urethra to such an extent as to prevent the free movement of the point within the bladder.

"I was so early impressed with the necessity of having a narrow shank for a sound, so that every facility should be given to movement, that I had Heurteloup's sound, as it is called, modified accordingly. The shank was made of smaller diameter by several sizes than the curved end, and thus the latter was a sort of lob, which could be turned about readily in all directions, while its comparative large size gave more certainty both to hand and ear. A sound of this sort is of far greater value than one with a thick stem or with a slender stem and equally slender point; and in accordance with my own views on these matters, Mr. Matthews has lately constructed, on his own device, a lithotrite with a narrow stem and lob-point, which, in my opinion, goes far to facilitate the effective use of the lithotrite in ordinary cases of stone. The force is applied by the rack and pinion, but of course the same shape will answer for the various ways in which the screw force has been so admirably applied in modern times by Messrs. Weiss and Mr. Coxeter.

"REMOVAL OF THE FRAGMENTS OF CRUSHED STONE.

"Generally when a stone is crushed the fragments are left to chance. So-called scoops and big-sized catheters have been introduced, and by the natural stream, or the force induced by injections, the fragments have been extracted, and have occasionally appeared in quicker time than if

left solely to chance; but in the majority of instances the surgeon and patient have waited for the chance escape of the fragments without instrumental aid. At this date there is ample experience to show that after a stone is crushed by one or repeated sittings, the fragments do come away, and a perfect cure is the result. But in many instances the last fragment is tardily discharged, and many weeks or many months elapse ere the cure is complete.

"It may be justly said of successful lithotrity that neither weeks nor months are long in comparison with the advantages gained; but for the credit of surgery it may be claimed as an advantage to do that in a few minutes which nature might take weeks or months to accomplish.

"The chief object I have in view in these remarks is to establish this practice.

"Supposing a stone crushed and its fragments comminuted, my proposal is, that these should be removed at the same time, or as soon thereafter as may be. The lithotrites generally in use are so large that they can be withdrawn from the bladder only when shut. If a fragment rests between the blades, it must be comminuted before these can be closed. The same remarks are applicable to ordinary scoops. Comminution must be so effectual that the blades may be closed, or nearly so, and all that can be brought away is the small bruised portion held in the hollow between the blades.

"With a small lithotrite and scoop, such as I am in the habit of using, a fragment of considerable size may remain betwixt the blades, and yet the united size or diameter may readily pass or be drawn along the urethra."

Art. 198.—*Cases of Lithotrity: Speedy Recovery.*

(Under the care of Sir H. Thompson.)

(*British Medical Journal*, May 16.)

The following are a few short notes of cases lately in University College Hospital. The number of cases of calculus in the bladder which have been treated of late years by Sir Henry Thompson in the hospital has been very large, and of these the vast majority by lithotrity. Indeed, it is the opinion of Sir Henry that lithotomy will become almost obsolete, and recourse to that operation be rarely necessary. It may not be out of place here to give a short outline of the usual treatment of stone cases under his care.

The patient on admission is examined, to ascertain the state and contents of his bladder, &c. If the case be satisfactory, but the patient have just arrived from the country, he is allowed to remain quiet a few days—to become, as it were, acclimatized. If there be some amount of cystitis present, demulcent drinks are given, and none so frequently as decoction of the underground stem of triticum repens, of which we have had some experience, and formed a favourable opinion. If there be no other disease contra-indicating surgical interference, the uthera is dilated by bougies to a moderate size. The parts being now in a fit state for operation, and the patient having retained his urine for half an hour or

so, a large amount being very undesirable, contrary to the generally received opinion, the patient is placed with his pelvis elevated nearly to the level of his shoulders, so as to get the stone to lie a little behind the neck of the bladder. Occasionally, however, it is necessary in children and in men with enlarged prostate, to elevate the pelvis more, to admit of the stone rolling to the posterior part of the bladder. Chloroform is rarely, if ever, administered, for obvious reasons; and indeed it is seldom necessary, so quickly is the operation finished. The instrument is now introduced. The mechanism of the handle is new, and admits of more rapid operating than any other instrument. Both blades are bevelled, and the male smaller than the female, thus rendering it next to impossible to grasp the walls of the bladder. The instrument being introduced, and the jaws of the lithotrite opened, the stone is generally discovered immediately, and grasped. If not found in the middle, it is then searched for to the right and left, and, if still undiscovered, the instrument is depressed, the blades reversed, and the stone sought for till found. Before withdrawing the instrument, the male blade is closed tightly and moved laterally by a screw to expel a sufficient amount of fragment to admit of the withdrawal of the lithotrite without much pain. This is, however, frequently the most painful part of the operation, owing to narrowing of the orifice of the urethra, which has occasionally to be slit up, as it was in one of these patients. A fenestrated instrument is usually employed at first to break the stone and one or two of the larger fragments during the first sitting. After the operation fomentations are applied to the hypogastrium, and the patient made to pass water laying on his back for the first twenty-four hours, to prevent the irritation of large particles passing, and to allow of their edges rounding off by soaking. At the second sitting, in four to six days, the process is repeated; a broad and plain-bladed instrument being used, unless there are still larger fragments. There is no washing out subsequently, since, if properly crushed, the *débris* comes away by the patient's natural efforts. But when the bladder, either from atony of its coats, or enlargement of the prostate, does not empty itself, the fragments are withdrawn by washing out. An ingenious instrument by Mr. Clover is now used by Sir Henry Thompson for this purpose. It is simply an indian-rubber bulb, with glass vessel attached, which is filled with warm water, and fixed on to a catheter already passed. The water is squeezed into the bladder, which returns on removing the pressure from the india-rubber bulb, carrying small fragments along with it, which fall to the bottom. This may be continued for some time.

Case 1.—A man, aged fifty-five, from Essex, was admitted January 4th, with symptoms of stone well marked and severe. He had five sittings—the first on the 8th, and the last on the 29th of January. He had slight fever once. There were two or three calculi, chiefly uric acid, some phosphate. The first week in February, he was carefully examined twice; and was discharged on the 12th, perfectly free from symptoms.

Case 2.—A man, aged fifty-one, was admitted January 27th, with symptoms of stone well marked and severe. There were five sittings—the first on January 29th, and the last on February 16th. He had a good deal of fever and cystitis. A medium-sized uric acid calculus was removed

and he was discharged free of stone on the 28th, gradually improving in general health (which had been affected by the cystitis), without pain or irritability.

Case 3.—A man, aged fifty-one, from Yorkshire, was admitted January 20th, with symptoms of stone of several years' duration, and slight mucous deposit, but no albumen in his urine. There were nine sittings—the first on January 24th, and the last on February 26th. There was a very large uric acid calculus. He was discharged on March 1st, perfectly well. He had no fever, and scarcely a trouble of any kind.

Case 4.—A man, aged fifty-five, was admitted January 10th, with well-marked symptoms of stone. There were eight crushings—the first on January 15th, the last on February 7th. Two rather large uric acid stones were removed. The second week in February, he was examined twice. Nothing was found; and he was discharged perfectly well on February 15th. He had a little fever once or twice.

Art. 199.—*A Lithotrity Syringe.*

By C. F. Maunder, F.R.C.S.

(*London Hospital Reports*, vol. iii.; and *British and Foreign Medico-Chir. Review*, January, 1868.)

The construction of this instrument is figured in an illustration, and it is so formed as to serve the purpose of injecting fluid into the bladder, and at the same time to remove the fragments of the stone which has been crushed. The fluid is injected from an elastic bottle, and the fragments of the stone are received into the fenestrated end of a catheter attached to the bottle.

Art. 200.—*Case of Strangulated Hernia, in which the Symptoms continued after Reduction of the Tumour.*

By James Syme, F.R.S.E., Surgeon to the Queen in Scotland, and Professor of Clinical Surgery.

(*Edinburgh Medical Journal*, January, 1868.)

On the evening of Saturday, the 23rd of November last, Mr. Syme says: "I was requested to visit a patient in Roxburghshire, said to be suffering from the symptoms of strangulation, after reduction of an inguinal hernia of the right side, which Dr. Purves, of Dryburgh, informed me had been accomplished without much difficulty on the preceding Tuesday. I found a tall and very strong man, apparently between fifty and sixty years of age, with his abdomen much distended, but nothing perceptibly wrong in the groins. He had experienced no relief from return of the bowel, but, on the contrary, during the four following days had continued to suffer from sickness, with frequent vomiting and obstinate constipation. Under these circumstances, we concluded that the sac had been reduced along with its contents, and that the bowel being still in a state of strangulation, there was no time for delay in resorting to efficient means of relief.

"I therefore made a free incision over the right spermatic cord, and cut through its coverings so as to expose the external ring, into which

I introduced my finger and pushed it up, until the lower surface of bag could be felt. This was brought into view by dividing the aponeurosis of the external oblique muscle to a sufficient extent, and cautiously opened, as it contained no fluid, and merely a portion of intestine. At the neck of the sac there was a very tight stricture, through which a probe-pointed bistoury having been guided by my finger, free admission was afforded to the protruded bowel. There was no bleeding, and a couple of sutures closed the edges of the wound, which was covered by a compress, properly secured.

"No sooner had the operation been performed than the patient declared that he felt relieved. In less than half an hour afterwards the bowels were freely evacuated; and everything went on well, without any occurrence worthy of notice."

In connexion with this case Mr. Syme reproduces the following one, of a similar kind, which appeared in the *Edinburgh Medical Journal* for January, 1850:—

"The reduction into the abdomen of a hernial sac, with its contents in a state of strangulation, is an occurrence so rare in the practice of surgery, that systematic teachers and writers generally seem to regard it as a subject hardly deserving of their notice. Mr. Teal of Leeds, in his excellent work on hernia, has collected and presented in a tabular view all the cases of this kind which have been recorded by Arnaud, Dupuytren, and more recently, Mr. Luke of London, from which it appears that the only instances of an operation performed with success, under such circumstances, in Great Britain, are one recorded by the last-mentioned gentleman, and another by Mr. Wade. I have several times been asked to see patients on the point of sinking under the effects of this 'reduction in mass,' as it is termed by the French surgeons; and on two occasions have had an opportunity of examining the parts concerned after death. The stricture caused by the neck of the sac was then so obviously the cause of death, and might have been so easily remedied by incision, that the non-performance of an operation within due time seemed matter of deep regret, and suggested as an imperative duty to operate whenever the grounds of suspicion should warrant this proceeding.

"Upon the 13th of October last, I was asked by Mr. Sidey and Dr. Newbigging to see a patient who appeared to be suffering from an internal strangulation of the bowel. He was a man about fifty years of age, the butler of a family in town; stout in frame and rather corpulent. For eleven years he had been troubled by an inguinal hernia of the right side, and worn a truss to prevent its protrusion, until the last six weeks, during which he had not observed any swelling, although the bandage had not been used. At twelve o'clock of the preceding night he had suddenly felt very ill, and sent for Mr. Sidey, who saw him at one o'clock in the morning, complaining of intense abdominal pain, with quick pulse, cold perspiration, and vomiting. Upon careful examination, a tumour, about the size of a hen's egg, was felt in the right iliac region, without any external enlargement or thickening of the parietes. Leeches were applied, and several injections administered during the night, with some palliation, but no material alteration of the symptoms; which continued much the same as they have been de-

scribed until we met about two o'clock in the afternoon—fourteen hours from the commencement of the attack.

"As there could be no doubt that strangulation of the bowel existed, we examined the suspected region with all the care in our power, but probably from the abdomen having become more distended, without being able to detect the tumour which had been felt the night before. All that we could perceive was a slight degree of induration or resistance, opposite the internal ring, over a space not much larger than the point of a finger. In these circumstances I should not have felt justified in undertaking any operation, unless Mr. Sidey's accuracy of observation had been well known to me, and in the absence of any positive information that could be obtained at the time of our examination, rendered his detection of a tumour in the first instance sufficient grounds for surgical interference.

"Having placed the patient in a convenient position, I made a free incision of the integuments throughout the whole extent of the inguinal canal, tied the superficial epigastric artery, inserted my finger through the external ring, and guiding upon it a probe-pointed curved bistoury, divided the aponeurosis of the external oblique muscle, up to the internal opening for the cord. There being still no appearance of a tumour, but a more distinct feeling of resistance, I divided the other coverings of the cord, and brought into view a dark-coloured mass, at the internal ring. Pulling this towards me, I readily drew out a hernial sac, about the size of a hen's egg, which being opened was found to contain a portion of the small intestine. Searching for the stricture, I encountered a difficulty from the sac yielding to the slightest pressure, and returning with its contents into the abdomen. I therefore seized it with a pair of forceps, and thus obtained the requisite tension, until I succeeded in passing the edge of my nail beyond the stricture, and guiding the bistoury upon it, effected the dilatation necessary for accomplishing reduction of the strangulated part. The patient was speedily relieved from all his distress, and although a very unfavourable subject for any operation, recovered completely, and is now quite well.

"This case will, I trust, afford encouragement to operate for the remedy of hernial tumours, reduced in a state of strangulation; and may also be regarded as possessing some interest from being, so far as I know, the only instance of recovery from a hernia which had become strangulated within the abdomen."

Art. 201.—*On the Treatment of Irreducible Hernia.*

By John Langton, F.R.C.S.

(*St. Bartholomew's Hospital Reports*, vol. ii.; and *British and Foreign Medico-Chirurgical Review*, January, 1868.)

In opposition to the views of those surgeons who advise that an irreducible hernia should be left in a great measure to itself, or that its reduction should be attempted by absolute rest, abstinence, and the

use of evacuants, Mr. Langton advises that certain mechanical means should be used, having for their object the gradual return of the hernia into the abdominal cavity, and that the patient should continue his usual avocation. He divides irreducible hernia into epiplocele, entero-cele, and entero-epiplocele, the second being the most rare. He describes the apparatus by which pressure of the tumour is effected, and he states that at the Truss Society the cases are successfully treated in the manner he describes.

Art. 202.—*Treatment of Prolapsus Ani.*

By Philip S. Wales, M.D., Surgeon U.S.N.

(*Treatise on Surgical Operations and Appliances.*)

In this elaborate work, a very simple and ingenious internal rectum supporter, contrived and used for an inveterate prolapsus ani, is thus described in the chapter on remedies for loss of function :—

"An apparatus composed of a loop of No. 6 wire, four inches long, and curved to fit the anterior surface of the sacrum, having a stem at its base an inch and a half long, and formed of two wires of the loop twisted together. The end of this stem was soldered to a wire frame consisting of a single wire crossing the perineum antero-posteriorly, and dividing in front and behind into two branches terminating in large eyes, through which a cord was passed to secure the apparatus to the person. By this means the bowel was retained in its normal situation during defecation, by the instrument holding the posterior wall of the rectum against the curve of the sacrum."

Art. 203.—*Coincidence of Vegetations with different Forms of Syphilis.*

By Dr. Gustav Wertheim.

(*Wiener Med. Wochenscrift,* No. xx., 1867 ; and *New York Medical Journal,* January.)

Dr. Gustav Wertheim does not deny the existence of vegetations (to which, with Virchow, he gives the name of "acuminate condylomata") of a purely gonorrhœal nature, but says :

1. That acuminate condylomata are not consequent upon blennorrhagia alone.
2. They may occur as the sequence of previous local ulcers, either alone or in connexion with various manifestations of general syphilis.
3. Such as antecedent broad condylomata (breiten condylomen, C. lata, mucous patches), or in connexion with other general manifestations.
4. That they may precede by many months general syphilis as an accidental symptom.

Art. 204.—*On an Operation for the Relief of a Stricture of the Urethra.*

By George W. Callender, F.R.C.S.

(*St. Bartholomew's Hospital Reports*, vol. ii., and *British and Foreign Medico-Chirurgical Review*, January, 1868.)

The case described was that of a man who had suffered from narrowing of the urethra, and as all attempts to pass a catheter, although aided by the use of a hot bath and opium, had failed, and the symptoms were becoming most severe, the bladder was punctured above the pubes. This operation gave great relief, but subsequently diffuse inflammation of the scrotum supervened, with formation of matter, and requiring free incisions. This treatment had been adopted in Cornwall, where the man lived, but he was eventually sent to St. Bartholomew's Hospital, when three sinuses were seen in the perineum leading to the urethra, and the opening above the pubes was occupied by a canula, through which the urine was drawn off. Mr. Callender determined to adopt a plan recommended, but not practised, by John Hunter, for the relief of such a condition, and consisting of the passage of the curved extremity of a canula, from the bladder into the urethra, and then passing another straight canula from the glans down the urethra, so that the two may nearly meet, having the stricture only between them, which is then to be divided by a piercer. Mr. Callender accordingly performed the operation in the manner just indicated, and the result was quite successful, the fistulæ gradually closing, and the urethra admitting the passage of a No. 8 catheter. Before leaving the hospital, however, it was necessary to relieve the bladder of two calculi, which were removed by the supra-pubic opening, and after this was done, the opening closed.

Art. 205.—*Case of Stricture of the Urethra treated by External Division.*

Under care of G. E. Fenwick, M.D., Professor of Clinical Surgery, M'Gill University. Reported by George Ross, A.M., M.D., House Apothecary Montreal General Hospital.

(*Canada Medical Journal*, December, 1867.)

The following case is placed on record by Dr. Fenwick:—

"Andrew Melville, aged forty-six, was admitted into the Montreal General Hospital on the 21st October, 1867, suffering from a stricture of old standing.

"He states that he has never had but one attack of gonorrhœa, and that occurred twenty-seven years ago—it was pretty severe and he was under treatment for over a month—some scalding in voiding urine remained for a long time after apparent cure. About seven years ago he first noticed a diminution in the size of the stream of urine, together with the other symptoms of commencing stricture. Three years since had almost complete retention, which was relieved by the passage of

a small catheter. Had no further trouble with it until just twelve months ago, when he was treated in this hospital for extensive urinary infiltration which had followed almost complete occlusion of the urethra; a small perineal fistula has always remained since this time. A few days before admission noticed some swelling in the perineum, accompanied by severe scalding.

"When admitted, the perineum was found swollen and hard, as was also the scrotum, and he complained of almost total inability to pass water, together with much pain on making the attempt. An attempt was now made by the house surgeon to pass a catheter, but without success, owing to the œdematous condition of the parts around the urethra and the existence of a long false passage leading up between the bladder and rectum. He was put to bed and hot stupes applied with relief.

"Considering therefore the impermeable nature of the stricture, and the constant danger of repeated attacks of urinary infiltration, it was determined to perform perineal section.

"Accordingly on the 15th November, the patient having been put under the influence of chloroform, a No. 10 catheter was introduced into the urethra as far as the seat of the stricture, and upon this an incision about $1\frac{1}{2}$ inch in length was made. When the extremity of the catheter was thus exposed, search had to be made for the entrance of the urethra, and in this part of the operation considerable difficulty was experienced, but at length a small probe having been got through the stricture, this was freely divided upon it for the distance of about three-quarters of an inch. The large catheter was then easily passed into the bladder and retained by tapes.

"The operation was followed by two or three pretty severe rigors, and on the fifth day by the formation of an abscess in the cellular tissue of the scrotum communicating with the urethra, but which when opened soon healed up.

"On the third day the catheter was removed and reintroduced the next day, and again retained for forty-eight hours, at the end of which time it was withdrawn, and afterwards only passed in at first every day and subsequently every second day.

"The wound presented a uniformly healthy appearance, and at the time of discharge is so completely healed that the entire stream of water passes freely by the natural passage.

"*Discharged cured*, November 30th, with an injunction to keeppassing a No. 10 catheter himself twice a week for at least twelve months."

Art. 206.—*On a new Method of Amputating the Penis, intended to prevent Atresia of the Urethra.*

By M. Bourguet.

(*Gazette Hebdomadaire*, No. 15, 1868.)

1. In order to prevent atresia of the urethra after amputation of the penis, the surgeon should endeavour to re-establish the normal conditions of the meatus urinarius.

2. This end may be attained by forming two large and thick flaps at the expense of the mucous membrane and of the spongy tissue placed externally to it. These flaps are then turned backwards over the end of the stump, and fixed in this position by means of serres-fines, or by metallic sutures.

3. By proceeding in this manner, the line of cicatrization of the wound is brought outward, and the lips of the new meatus may be drawn in the same direction by the retraction of the cicatricial tissue, so that the chances of subsequent coarctation are thus removed.

4. Longitudinal division of the penis renders the formation of these flaps a very easy matter, and does not prolong very much the operation.

M. Bourguet first makes an incision through the skin at the upper limit of the disease, taking care to spare that covering the lower part of the urethra. A long bistoury is then carried from above downwards in the middle line of the penis, and divides the organ from the limits of the disease to the extremity of the gland into two large flaps, which are then trimmed and carefully dissected, care being taken to save not only the mucous membrane, but also the corresponding spongy tissue. The diseased corpora cavernosa are then removed by the écraseur, bistoury, or curved scissors.

5. This proceeding also enables the surgeon to make out with greater facility the extent of the degeneration in cases of cancer.

6. The use of the linear écraseur is of advantage in the section of the corpora cavernosa; the other stages of the operation (division of the penis, formation of the flaps, circular division of the integument) should be performed by some cutting instrument.

Art. 207.—*Encephaloid Disease of a retained Testicle; with Remarks, including a Summary of Twelve other similar Cases.*

By G. F. Hodgson.

(*St. George's Hospital Reports*, vol. ii., 1867.)

The subject of this case, when about twenty-five years of age, in 1857, injured his right testicle—which had been arrested in its descent, and was still retained in the groin—as he was lifting a heavy weight from the ground; and for the next two years suffered no inconvenience except on two occasions from a similar cause. In September, 1863, the swelling was increased to the size of a fist, and was a hydro-sarcocele in the groin. It was tapped, and six ounces of fluid drawn off. Attempts were made to discuss it for the next six months, when Mr. Paget pronounced it malignant, and advised its removal, which was objected to. In September, 1865, the tumour had increased considerably, and continued to do so until July, 1866, when the patient died. The post-mortem disclosed extensive encephaloid degeneration.

The author remarks :—

"The summary of exactly a dozen cases is such, I think, as to *deter* us from operating when the disease has attained to any considerable size, especially if the peritoneum would have to be opened. . . . . If, however, I should again see a case early I *would* operate."

With regard to the propriety of removing a testicle retained in the groin, he says :—

"As these testicles can as a rule be of no use—as they are from the arrest of their development very prone to cancer—as if attacked by inflammation they would be much more painfully affected than if in the scrotum—could the gland neither be brought into the scrotum, nor pushed into the belly—if it gave any trouble in exercise, it had better be removed."

ART. 208.—*Case in which the Symptoms of a large Abdominal Aneurism were present and Cure resulted.*

By FREDERICK H. DALY, M.D.

(*London Hospital Reports*, and *British and Foreign Med.-Chir. Review*, January, 1868.)

In this case the existence of an aneurism was inferred from the pulsation of the tumour and the existence of a bruit, and the diagnosis was confirmed by Mr. Hutchinson. The treatment consisted in absolute rest, the application of ice, and the administration of acetate of lead internally. After a rather long course of treatment, it was found that the aneurism had disappeared, and Dr. Daly attributed the cure in a great measure to the action of the acetate of lead.

ART. 209.—*On the Treatment by Manipulation of Dislocation of the Thigh backwards, or in the Ischiatic Notch.*

By GEORGE W. CALLENDER, F.R.C.S., Assistant-Surgeon to, and Lecturer on Anatomy at St. Bartholomew's Hospital.

(*The Lancet*, March 14.)

In the case recorded by Mr. Callender he tried, but without success, to reduce the dislocation by manipulation and also by extension with pulleys.

Very much vexed at the failure of these attempts, he was at the time disposed to think that the position and extent of the rent in the capsule might be the source of difficulty. The capsule might be interposed, curtain-like, between the head of the femur and the acetabulum, or the rent in the capsule might be so situated that the head of the bone could not be brought opposite to, or directed so as to pass through it. But on looking more closely into the question, Mr. Callender is of opinion, from the evidence we possess, that the capsule could not in this instance, and indeed that it never can, offer any obstacle to the reduction of dislocations at the hip.

After the patient had rested for several days, the following plan was adopted:—The thigh was bent upon the abdomen, and Mr. Callender slowly moved the limb into a straight line with the body, so that the head of the bone could be felt projecting in the buttock, outside the tuber ischii. The limb, in a straight line with the trunk, without allowing any rotation outwards, was then drawn forward from the abdomen, and forced downwards (extended), and the head of the bone at once slipped into the acetabulum. These movements were made slowly and steadily, and the limb was extended with care, remembering the great leverage which we were making use of, and the position of the head, which was being pressed up into the socket. In two recorded cases the neck of the femur has been broken under a somewhat similar strain.

If these manœuvres are examined by the help of the skeleton, it will be found that by flexion, and by moving the thigh into a straight line with the body, the head is brought from the notch into the groove just above the outer side of the tuber ischii. Here it is opposite the least prominent part of the lower edge of the acetabulum, and if the femur is depressed whilst in this position the head easily slips into the socket. Dr. Markoe, with the addition of a rocking movement as the thigh is extended, and Dr. Hamilton, employ somewhat similar manœuvres, and they speak favourably of their success.

Mr. Callender has been anxious to give some explanation of the manner in which the method by manipulation acts, and to insist upon the importance of not abducting or rolling the limb outwards, for if this is done the head of the bone is almost certain to roll past the acetabulum to its inner side; or if an obturator dislocation is under treatment, and the thigh is rotated inwards, the head of the femur will, as he has several times seen it, roll round on to the ischiatic notch, just reversing the movement which takes place when an ischiatic dislocation is improperly manipulated.

Three steps complete the operation. First, the thigh is bent on the abdomen; secondly, it is brought into a straight line with the long axis of the body; thirdly, it is forced down (or extended) in a straight line, parallel with its fellow. The dislocation is thus reduced without difficulty and without the need of any assistant. And what is of chief importance, the operation avoids all risk of rolling the head of the bone round the acetabulum, an accident which is so apt to complicate manipulation as commonly practised.

Art. 210.—*A Clinical Lecture on Dislocations and Fractures of the Spine.*

By Jonathan Hutchinson, F.R.C.S.

(*London Hospital Reports*, vol. iii.; and *British and Foreign Med.-Chir. Review*, January, 1868.)

One of the chief objects which Mr. Hutchinson has in view in this lecture is to furnish conclusive arguments against operative interference in injuries of the spine. He asserts that many cases recover if placed

under favourable circumstances and let alone, and that in the fatal cases it has by no means been proved that any benefit would have resulted from operation. The effect, therefore, of such a measure would have been to increase the patient's sufferings and aggravate the danger. Mr. Hutchinson thinks that permanent compression of the cord or of any part of it is a very rare event, and that although the vertebral column is sometimes suddenly crushed by violence, the bones spring back by their own elasticity, and thus restore the column to its original position. From a consideration of many other circumstances, Mr. Hutchinson strongly condemns the practice of operating on the spine with a view of elevating depressed fractures of bone, and among the strong objections to this proceeding are the conversion of a simple into a compound fracture, and the risks of pyæmia and of spinal meningitis.

Art. 211.—*In what Cases is Lateral Curvature of the Spine curable? and what are the directly curative means.**

By William Adams, F.R.C.S.

(*British Medical Journal*, March 21.)

The author commenced by stating that the curability of lateral curvature of the spine is, at the present time, one of those unsettled questions which urgently demand the attention of the profession, and he therefore submitted to the Society the conclusions at which he had arrived on this subject.

First he insisted on the point that no confirmed or persistent curvature of the spine, however slight, can exist merely as a functional affection, but that in every instance a spinal curvature is necessarily associated with, and dependent upon certain structural changes, proportionate to the degree of curvature and its duration. He then drew a broad line of distinction between these cases and cases of *weak spine* with a disposition to curvature, which he described as a functional affection depending upon muscular debility; and for the purposes of description spoke of these as functional or physiological curvatures.

He then dwelt upon the diagnosis of these two conditions, pointing out the fallacy of relying upon the spinous processes which deviate laterally in cases of simple weakness, and on the other hand remain in a straight line in some cases, in which the bodies of the vertebræ have deviated to a considerable extent, in a manner described as horizontal rotation of the bodies of the vertebræ, which the author believed occurs as the primary deviation in every case of persistent curvature.

Mr. Adams relied for diagnosis entirely upon the altered relations of the angles of the ribs in the dorsal region, and of the transverse processes in the lumbar region. A projection backwards of the ribs on one side, with depression of those on the other, or a corresponding deviation

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* Abstract of a paper read at a meeting of the Harveian Society of London, February 20.

of the transverse processes in the lumbar region, certainly indicates persistent curvature with structural changes to a proportionate extent in the intervertebral cartilages and oblique articulating processes. In practice, these deviations are more apparent when the patient is examined in the stooping position.

The author did not consider that the ligaments or muscles underwent any important changes in the early stage of the affection. As the structural changes described depended entirely upon unequal pressure on the intervertebral cartilages and the oblique articulating processes, the author believed these structural changes to be capable of being repaired by the efforts of nature during the period of growth, if the mechanical cause of unequal pressure be removed. Hence in treatment he relied upon partial recumbency, to the extent of at least six hours a day, by the use of a reclining chair, and also recommended the use of spinal instruments, first, as a directive force of balance, diminishing the irregular distribution of weight upon the spinal column when curved; and secondly, as a direct mechanical force exerted upon the part of the spine curved. Upon these principles, he regarded partial recumbency and mechanical support as the only two curative means at the disposal of the surgeon. Gymnastic exercises could not, in the opinion of the author, be considered as a curative means in persistent curvature with structural changes, however slight. He regarded them merely as curative in cases of weak spine or functional curvatures, and capable only of preventing these from passing into or becoming cases of confirmed curvature.

When, therefore, there was no evidence of structural changes, the author relied upon gymnastic exercises, combined with partial recumbency. If, on the other hand, evidence of structural changes existed, he relied upon mechanical support with partial recumbency.

In conclusion, the author stated that the curable stage of the lateral curvature was limited to the early period of the affection—probably one or two years—when the structural changes are slight and recent, and when we have youth and growth in our favour. If this opportunity of curing a spinal curvature be lost, it rapidly becomes incurable, and capable only of being arrested by mechanical support.

Art. 212.—*On Penetrating Wounds of the Chest.*

By John Ashhurst, jun., M.D., Surgeon to the Episcopal Hospital.

(*American Journal of the Medical Sciences*, January, 1868.)

Dr. Ashhurst believes the most rational and the most successful mode of treatment is the following:—

In the first place the wound should be closed as quickly and as firmly as practicable; this has the advantage of placing the injury as much as possible in the condition of a subcutaneous wound, and even if the case should do badly, and empyema should ensue, it will generally be better to perform paracentesis in the usual locality than to

reopen the original wound. The first dressing having been carefully applied, should not be disturbed as a rule for several days; not until primary union is likely to be sufficiently firm to allow of the wound being exposed without the adhesions giving way. Of course, if a bleeding vessel is found when the wound is first seen, it should be secured; but if a clot has already formed, it need not be disturbed, for as in the second case related above, the wound may heal over it, and the clot itself be absorbed, or if suppuration should take place, it will not be until after the bleeding vessel has been firmly occluded.

These remarks of course are to be understood as applying to incised and punctured wounds, and not to those produced by firearms. Dr. Ashhurst doubts if any advantage is to be obtained by attempting to procure primary union in gunshot wounds.

There is no necessity for starvation or "absolute diet," so-called, in wounds of the chest. The patient is much more apt to do well, both as to his general and his local condition, if supplied with easily digestible and nutritious food (and Dr. Ashhurst knows of nothing which answers the purpose better than milk) in moderate quantities and at frequent and regular intervals.

Of drugs, opium is the one most often required. Pleurisy, or pneumonia, if they occur (and fortunately, in healthy persons judiciously treated, they occur much less often than might *à priori* be expected) must be treated *secundum artem;* but the patient will be none the worse prepared to endure an attack of pneumonia from not having been rendered exsanguineous by previous venesection.

Art. 213.—*Wound of an Intercostal Artery—Hæmorrhage—Death.*

By M. Demarquay.

(*Gazette des Hôpitaux*, No. 43, 1868.)

On March 3rd, 1868, a young Pole, twenty-six years of age, was admitted into the Maison Municipale de Santé, under the care of M. Demarquay, to be treated for a large abscess situated over the left side of the chest. In 1863 this young man served as a volunteer in the Polish insurrection, and in an engagement was struck in the left side of the thorax by the butt-end of a musket, an injury which caused fracture of some ribs. He had to all appearance fully recovered from all the serious attacks which followed his wound, although there remained a deformity of the left side of the chest, and more or less considerable impediment to respiration; when about six months before his admission, his health failed, and he soon noticed an abscess on the left side of the chest near the scapula.

When seen for the first time by M. Demarquay, there was an abscess of the size of the fist, the long axis of which corresponded to that of

the ribs; there was also considerable dulness over the left side of the chest, except above and in front, where there was a sonorous sound. There was finally a flattening of the lower part of the chest on the left side, which produced thoracic depression and a variety of imbrication of the ribs.

On March 4th the abscess was opened at two points, and a drainage tube passed through the centre of the swelling. At the end of a few days M. Demarquay discovered that the seventh rib was denuded over an extent of about two centimetres, and that loose pieces of bone were present at the denuded part. The lower incision that had been made for the exit of pus was then extended for the purpose of removing the detached pieces of bone. Those that seemed to be adherent were left in their places for fear of opening the thoracic cavity. Everything went on well until the 13th of March, when at the evening dressing the externe discovered that there had been a quantity of discharge which had a bad odour.

On the following day, March 14th, it was found that the chest had become sonorous over the whole of its extent, and there was no doubt that the purulent collection had been discharged externally. A probe introduced into the abscess, which still contained loose sequestra, could be passed into the pleural cavity. In order to prevent putrid infection, M. Demarquay enlarged the opening of this vast purulent deposit, and then injected detersive lotions. By reason of the imbrication of the ribs, the possibility of injury to the intercostal artery was kept in mind, but M. Demarquay hoped to avoid this by not carrying his knife beyond the zone of indurated fibrous tissue formed by long-continued inflammation. The small incision which was made did not extend beyond the length of a centimetre, and was directed downwards and outwards. A slight flow of arterial blood followed this proceeding, but did not prevent the injection of a solution of permanganate of potash with tincture of iodine. The sequestra were allowed to remain for fear of producing some disturbance by removing them. A small piece of charpie passed to the bottom of the wound stayed the slight hæmorrhage which came from the posterior part of the incision. M. Demarquay then felt convinced that he had touched only a small branch of the intercostal artery.

On the evening of the 14th and on the following day, the hæmorrhage returned; it did not seem to be very abundant; but the patient, already much debilitated, succumbed on the evening of the 15th in a state of syncope.

At the autopsy it was made out: 1. That the left lung was pushed upwards and forwards; 2. That there was a large pleural cavity lined with roughened false membranes; 3. That the pleura and the false membranes lining it were not very thick over the seat of the partial necrosis of the ninth rib; 4. That the sequestra formed in consequence of necrosis of the ninth rib occupied for a length of between 1 and 2 centimetres the whole of the rib, and finally, that the small incision made by M. Demarquay had cut through the intercostal artery at the point where this vessel is sheltered by the lower margin of the rib. If the hæmorrhage had taken place at the time of the operation, M.

Demarquay would not have hesitated to seek for the posterior end of the vessel and to apply a ligature; the proceeding would have been difficult in consequence of the abolition of the intercostal space; but in this case there was no fear of injuring the pleura, as the cavity was already opened. Compression had been applied to the wound, which, in consequence of its not acting from within outward, naturally favoured the flow of blood into the pleural cavity. Hæmorrhage from wound of the intercostal artery is of rare occurrence; and from this point of view M. Demarquay's case presents some interest.

Another case of this kind has been reported by M. Thierry (*Bulletin de la Société Anatomique*, tom. iii., p. 151). The patient was a man who attempted to commit suicide by wounding himself below the left mamma with a pruning knife. An irregular transverse wound was formed, about an inch and a half in length, from which flowed a small quantity of blood. Nothing pointed to an injury of the pulmonary tissue. The chest was compressed. Two hours after the patient was pale, blanched, the pulse small and rapid, the respiration laboured, and the left side of the chest was dull on percussion. A wound of the intercostal artery was diagnosed, and hæmorrhage into the thorax. Death resulted, and a post-mortem examination demonstrated the correctness of the diagnosis that had been made.

Art. 214.—*Venereal Sores.*

(*Medical Times and Gazette*, January 4.)

In an able report on the practice of the Lock Hospital, it is stated that there are few persons nowadays who deny the existence of at least two forms of venereal sores, what are commonly termed hard and soft chancres. The latter are for the most part self-limiting, have a tendency to get well without treatment, are sometimes accompanied by glandular complications, often ending in the formation of suppurating buboes, which, as well as the original sore, are capable of self-inoculation. The hard sore, again, occurs but once as a rule in a man's lifetime, is more chronic in its character, is accompanied by multiple glandular enlargement which does not tend to suppurate, is not usually capable of self-inoculation except when irritated so as to produce pus, and gives rise to constitutional effects, which the other rarely does. Hardness is to be looked upon as the most important characteristic of a true infecting chancre, but this may be simulated by inflammatory thickening accidentally set up round a soft sore, and especially by the application to it of caustics or other irritant substances. We have thus practically three varieties of sore to deal with, so far as treatment is concerned—*i. e.*, the hard, the soft, and the doubtful sore. With regard to simple non-indurated sores, and also those in which the induration appears to be inflammatory or accidental, no one would give mercury or iodide of potassium, but would deal with them as a strictly local affection. When, on the other hand, the sore is unmistakably a hard one, most men are in favour of giving mercury, believing that it promotes the absorption

of the induration and the healing of the primary sore, and that it prevents in many cases the occurrence of secondary symptoms. Others believe that its effect is merely to postpone, but not to prevent the constitutional manifestations, and therefore prefer to withhold the remedy until these latter make their appearance. The doubtful class of sores would, we think, by all be treated as a local affection until the appearance of secondary symptoms rendered its character unmistakable. For, as one surgeon says, what is the good of treating what may never make its appearance? Messrs. J. Lane and Gascoyen do not believe that there are two kinds of venereal poison, but consider that both the hard and the soft sore are produced by modifications in the action of one virus. Neither do they admit the existence of the mixed chancre as described by the modern French school; but they believe that a sore originally soft may become indurated at any period of its progress, and that this is not unfrequently the case. In fact, Mr. Gascoyen would say that the induration was the first of the secondary manifestations—in fact, a "secondary symptom." Occasionally we encounter sores which have a tendency to spread somewhat like a serpiginous eruption, sometimes also partly by sloughing, partly by phagedænic action. These, it may be at once stated, are accidental complications, most frequently superadded to the occurrence of soft sores, sometimes also, however, in connexion with the true hard chancre; if so, they are not to be treated with mercury, which would only have the effect of increasing the rapidity of the disintegrative action. They appear to depend in many instances on peculiarity of constitution, which also seems in the case of true chancres to greatly exacerbate the general symptoms. There are bad attacks, and there are slight attacks of syphilis, and one can scarcely recognise as the products of the same disease the fearful effects of syphilis introduced into the system of the intemperate European, weakened by long residence in tropical countries, and the slight erythematous rash which is not unfrequently the only mark of constitutional syphilis seen in this country.

But to turn to the constitutional effects of syphilis. We find nowadays, as was done long ago, the secondary or superficial affections ordinarily occurring within six or eight weeks of the appearance of a sore, certain of them being distinctly infectious, and capable of being transmitted from parent to offspring, but ordinarily amenable to the influence of mercury. Tertiary symptoms, again, do not appear before the sixth month; implicate the deeper structures; are incapable of infection, and not as a rule transmissible as such from parent to offspring; are often prejudiced by the use of mercury, but are greatly improved by the exhibition of iodide of potassium, especially in large doses.

All the surgeons to the Lock Hospital use mercury; but let us see how. Some of them, as Mr. Hill, employ it as calomel with magnesia, in powder, for an application to sores or mucous tubercles; others, as Messrs. Lane and Gascoyen, in the form of black wash — bichloride lotion, or calomel in powder. They give it also internally for the relief of secondary symptoms, most frequently in the shape of blue pill. Syphilis is a disease which runs a definite course, and mercury may enable the patient to get over the different stages more rapidly than if it had not

been exhibited; but such cases cannot be said to have been cured by mercury; for the disease which in one stops at a slight erythema may in another go through its whole course to destruction of the bones of the head and gummy deposits in every internal organ. The question, then comes to be, What are the lesions which had best be treated by mercury, and which by other means? It must be borne in mind that mercury is a spoliative remedy, and that, while hastening the evolution of the disease, it takes from the vigour of the constitution. An instance occurring in Mr. J. Lane's practice well illustrates two classes of cases. Two young men contracted syphilis about the same time; the one was strong and hardy, the other delicate and of a consumptive family. The secondary eruption was about the same degree of intensity in both; but the strong man could bear a course of mercury, the weak one could not. The one patient with mercury soon completely recovered; the other by means of tonics ultimately got perfectly well also, but after a longer period than the other. But mercurial treatment does not suit well with all secondary eruptions, and it is of importance to know when best to give it with advantage. To this end it is necessary to inquire into the various kinds of eruption. The first and most common is erythematous—syphilitic roseola—it may be treated with or without mercury, but, other things being equal, the patient recovers far sooner with it. The squamous form of eruption, or psoriasis, and the papular or lichen, are also very common, and ought in like manner to be treated with mercury; so also the early forms, whether primary or following on the disappearance of either of the former varieties; psoriasis, however, when on the hands and on the feet, is frequently a very obstinate affection. The vesicular eruptions, eczematous or herpetic, are much more rare, and constitute a debatable land; some say give mercury, others say do not. Prabably here, as is most certainly the case with the rupial and ecthymatous eruptions, a solution of the scarlet iodide of mercury in iodide of potassium would be the best means of cure. The tubercular eruption is very often, as are some of the other lesions, accompanied with enlargement of the glands at the back of the neck and scabs in the hair; here also the medical officers of the Lock Hospital ordinarily recommend mercury, although some prefer the iodide of potassium. One word as to the complications of these lesions. The earlier ones—as, for instance, the papular and squamous eruptions—are frequently accompanied by iritis (here also mercury should be given); the later ones, especially rupia, are associated with syphilitic testicle, gummy tumours, and pains in the bones. Iodide of potassium, in doses rapidly increased to fifteen or twenty grains, should now be given.

We next speak of one peculiar form of affection indicative of secondary syphilis—we mean mucous tubercles—and we have finished. These are most frequently found in the vulva and around the anus, but not unfrequently occur in the mouth; they are the most infectious of all secondary manifestations, but less so than primary sores. If it be possible to treat them locally, it should be done. The slighter cases generally yield to such treatment; and therefore, if no other secondary affections are present, it is not generally thought necessary to give mercury internally. Tartrate of iron, calomel in powder, or black wash are

the usual applications; the former is said to dry up the discharge most speedily, but the mercurial applications are, on the whole, to be preferred.

Art. 215.—*Treatment of Buboes.*

By Frederick Goodchild, M.D., Surgeon to 1st Warwick Militia.

(*The Lancet*, January 4.)

Dr. Goodchild says he has adopted the following plan for some years with great success:—

On the formation of matter he does not wait until the skin has become extremely thin and tender (in those cases which come early under treatment); but as soon as fluctuation can be detected, he makes a moderate incision, poultices for forty-eight hours, and then injects night and morning a solution of sulphate of zinc, five grains to one ounce of water; a compress and bandage is then applied, and in the course of four or five days the man is able to return to his duty. In the more advanced cases, where the skin has become very thin, red, and tender, he releases the pus at once, and adopts the same after-treatment, saturating thoroughly the compress with the zinc lotion.

Art. 216.—*Infecting and non-infecting Chancres.*

By Edgcombe Venning, Medical Registrar St. George's Hospital.

(*St. George's Hospital Reports*, vol. ii.)

Mr. Venning has had a large experience of syphilis amongst the soldiers of the Life Guards, and seeks, in this paper, to point out some aids to diagnosis, in distinguishing between the two forms of primary sores, viz., that which is followed by constitutional symptoms, and that which is only a local disease. In the simple non-infecting chancre, he merely gives the iodide of iron, and uses some local application. In answer to the query, Is there any symptom by which we can, in all cases, recognise the presence of an infecting chancre? Mr. Venning says, that while induration may exist without the sore being infecting, the result of his own observation seems to prove that the infecting form is always attended with the amygdaloid enlargement of the glands in the groin. He does not remember ever having seen a case in which this symptom did not exist.

Art. 217.—*On Congenital Anorchism in Man.*

By Dr. Gruber, of St. Petersburg.

(*Medizinische Jahrbücher*, Heft 1, 1868.)

In January, 1867, Dr. Gruber had an opportunity of making a post-mortem examination in a case of congenital unilateral anorchism (monorchia), the only instance in which this condition had been brought under his notice during extensive pathological researches made for more than twenty-five years. The subject of this report was a man of middle age, and of a medium stature, and whose body was otherwise well developed. The following abnormal appearances were presented.

The right half of the scrotum, the right testicle, with the epididymis, and the scrotal and inguinal portions of the right vas deferens were absent. The pelvic portion of the right vas deferens, the right vesicula seminalis, with the right ductus ejaculatorius, the abdominal portion of the vasa spermatica interna and the vasa spermatica externa were present. The right vesicula seminalis, though of a large size, was somewhat smaller than the left. The right ductus ejaculatorius was as thick as that of the left side. The fluid contained in the right vesicula seminalis, and in the remaining portion of the right vas deferens, did not contain sperm elements. The scrotum was simple without a raphé, and corresponded to the left half of a normal organ. The left seminal gland was normally developed, and together with the left vesicula seminalis, was, considering the size of the individual's body, disproportionately large. The semen was rich in seminal bodies, great numbers of which were found in the left vesicula seminalis.

In this case the probability of the deficiency being accidental, was removed by the absence of a cicatrix, and of any trace of disease of the skin of the scrotum, and of the right inguinal region, and also by the absence of any remnants of testicle. This deficiency on the right side was compensated by a disproportionate development of the seminal apparatus on the left. The right vesicula seminalis, and the ampulla of the shortened vas deferens on the right side, merely acted as secreting glands. The corresponding structures on the left side acted both as glands and as receptacles for semen. The greatly developed left testicle, the normal state of the seminal fluid, the abundant presence of seminal bodies, and the normal formation of the penis, in this case would justify the supposition that the individual had been capable of procreation, but concerning this point no information could be obtained.

Dr. Gruber, from an examination of the literature of the subject for 300 years, found only thirty reported examinations (post-mortem) of cases of congenital anorchism. Of these thirty examinations, twenty-two were of individuals with congenital unilateral deficiency of the testicle (monorchia), and the remaining eight of cases in which both testicles were absent (anorchia). Six additional cases of anorchism were collected by Dr. Gruber, in which the subjects were examined during life, but as there might have been instances of simple cryptor-

chism (retained testicle), they were classified as doubtful; in four of these, both testicles were absent from the scrotum, in the remaining two cases only one.

From a study of the twenty-two reported cases of unilateral deficiency of the testicle, and the one reported above, Dr. Gruber concludes that congenital monorchia is a rare affection, that its subjects are generally men of well formed bodies, and that it is rarely associated with malformation or deficiency of internal viscera. The scrotum is usually well developed: the vesicula seminalis is also persistent, and acts as a secreting gland. The vas deferens is frequently deficient in the inguinal and scrotal regions, and the remaining canal, together with the corresponding vesicula seminalis, contains the ordinary secretions, which, however, are devoid of spermatozoa. The seminal apparatus at the opposite side, and the penis, are generally well developed, and the individual on these conditions is capable of procreating. Unilateral anorchism affects the left side of the scrotum more frequently than the right.

The subjects of congenital double anorchism, natural eunuchs, seldom reach advanced age, and frequently present malformations of the penis, and also of various external and internal organs of the body. The beard does not grow as it frequently does in adults deprived of only one testicle. The testicles, epididymes, and seminal ducts are partially or entirely absent on both sides. Natural eunuchs have feeble bodies, are mentally dull, and not always disinclined to the other sex.

Art. 218.—*On the External Use of Digitalis in Suppression of Urine.*

By J. D. Brown, F.R.C.S. (Exam.)

(*Medical Times and Gazette*, January 25.)

Mr. Brown reports several cases of suppression of urine in which he prescribed, with the happiest results, digitalis in the form of a poultice of leaves bruised and warmed in boiling water. It is not supposed, Mr. Brown says, that it will succeed in all cases of this disease; but it is clear that it has a powerful influence over the renal secretions, and if *carefully watched*, taking the pulse as a guide, no mischief need be feared.

There may be a difficulty in obtaining leaves collected before seeding time, which appears to Mr. Brown to be the period of most vigour, judging from the fact that nature concentrates her powers for the multiplication of species, and which at seeding time would pass into the young, leaving all other parts more or less exhausted. Mr. Brown believes from experience the winter leaf is very deficient in power. The tincture, mixed with linseed meal, succeeded in one case; the fresh powder or dried leaves would be equally efficient. The rules of management must depend on the pulse. Mr. Brown has seen no good results till the pulse fell in number; it matters not from what figure: fall it

must before any change occurs. In one case it fell from 109 to 70 in ninety minutes; in another from 80 to 65 in three hours and a half. Sixty is strongly advised as a standard from a high number; 40 or 50 from a lower figure—say from 80. In four cases the attack commenced suddenly like a fit of stone, and in reality stone came away in each case.

Art. 219.—*On the Treatment of Hypertrophy of the Prostate.*

By Sir Henry Thompson.

(*The Lancet*, March 7.)

"Hypertrophy of the prostate," Sir Henry says, "cannot be diminished by any known means; but much may be done by way of palliative to the results of the complaint, and much of this treatment is mechanical. This will consist, first, in relieving the distension by the catheter. As a rule, the gum catheter is preferred for this purpose. For prostatic enlargement you require a catheter well curved *to its very point*. You should keep the instrument on an over-curved stylet for a month or so before employing it; and you will then find it easily assume the proper form, when you will pass it without a stylet. If you require a stiff instrument, a silver catheter should be selected; not a gum catheter with a stylet in it. To return: you want the point of course to be carried over the obstruction formed by the enlarged prostate; and as the heat of the urethra always relaxes the curve, whatever it may be, by the time it arrives at the neck of the bladder, the ordinary gum catheter, as you have it from the maker, becomes nearly straight, and will not pass over the enlargement. Now, when you have a catheter which has been well over-curved for a month or two, you remove the stylet and turn back the shaft, so as to undo the extreme curve and produce an ordinary one. And what happens when you pass it? In spite of the heat of the urethra, the catheter has a tendency to curve more, instead of less, as it passes down the passage. And this is precisely the difference between success and non-success. That little manœuvre I regard as of extreme value. It is a very simple thing; keep the catheter over-curved—not for stricture, but for enlarged prostate;—then turn back the shaft immediately before using. The curve gradually increases as it goes onwards, and it passes over the enlargement into the bladder. This is so simple that it seems scarcely worth making so much of; but I can only tell you that I know nothing of its kind that exceeds it in value.

"As far as the general treatment of prostatic enlargement goes, the main thing is to prevent local congestion. You must tell the patient above all things to avoid anything like chills affecting the pelvic region, sitting on cold seats, exposure to cold; too much excitement, sexual or otherwise; long journeys, riding in jolting carriages,—all of which tend to produce pelvic congestion, and to interfere materially with the condition of the prostate.

"One other point has relation to the action of the bowels. You may

make a man with enlarged prostate very comfortable if you keep the bowels in gentle action. If he has constipation, and scybala lodge in the rectum, their presence is often the source of great discomfort. Sometimes a simple enema of warm water gives instant relief; but, if necessary, the action of the bowels must be provided for by means of gentle laxatives, such as senna, manna, bitartrate of potash, sulphur, or by sulphate of soda; anything which will act mildly, quickly, and without irritation, will keep him in a very different condition from that which is associated with habitual constipation.

"You may have a patient in whom prostatic enlargement has manifested itself rather suddenly; he may have had symptoms which he has not noticed, but he is suddenly attacked with congestion, he cannot make water, and he is in great distress in consequence. It is not a question how long a time is to elapse before the catheter is to be passed; you should relieve him at once. You find there is a distended bladder, evinced by dulness of percussion above the pubes. In the first place, you should be careful with regard to position. I advise you to pass the instrument with the patient in the lying position first, if the bladder is very large; if it is not very large, perhaps it is as well, or better, to pass it standing. You can empty the bladder better in the standing position; but if you find that the bladder is very large, make the patient lie down before you draw off the water. I have known great mischief arise from drawing off a large quantity of water from a patient when in a standing position. I have even known death occur suddenly from this cause. Take care to draw off only part of the urine; and after a quart or so has passed, wait a little before you empty the bladder. If you fail to pass a gum-elastic instrument, by all means use a silver one. The silver prostatic catheter is sometimes essential; that is, one which is much longer and has a larger curve than the ordinary instrument. Sometimes, when these fail, a catheter with a short beak, like the sound or lithotrite, will pass easily. And always remember that anything like obstruction at the end can only denote that you are out of your path. No force should be employed. It is not a narrow passage; it may be a little close, perhaps, when you reach the prostate; but if you find any obstruction, you should withdraw and find another route, to the right or to the left. Never use force, under any circumstances whatever.

"If you have had much trouble in introducing a catheter you must sometimes leave it in. As a rule it is not good practice, but if an instrument must remain there, that made of vulcanized india-rubber is by far the best; it has generally to be mounted on a stylet for the purpose, which is withdrawn afterwards. It is the least irritating kind, and scarcely ever becomes coated with phosphates.

"Subsequently, as the canal recovers, should the bladder not regain its tone and the catheter is therefore necessary to be used two or three times in the twenty-four hours, you will probably in the course of time teach the patient to relieve himself; and he will often, with a little tuition, succeed remarkably well. But it may happen that the catheter cannot be passed, and the subject of operation for the relief of the patient must be considered."

Art. 220.—*On Hypertrophy of the Middle Lobe of the Prostate.*

By Professor Dittel, of Vienna.

(*Medizinische Jahrbücher*, Bd. xiv., 1867.)

In an article on the symptoms, course, and pathology of hypertrophy of the prostate gland, Dr. Dittel gives the following description of the development of the hypertrophied middle lobe :—

"When the middle lobe is first formed, it grows upwards over the lacuna from the pars intermedia, and projects in front of the prostatic ring. During its subsequent development it makes way between the mucous membrane of the urethra and the sphincter in such a manner that the prostatic ring lies permanently behind it, whatever may be the size and form of the lobe, and whether it projects as an isolated conical tumour, or remains with a broad base, and in connexion with the lateral lobes. The further development of the middle lobe then varies in form.

"1. The middle lobe is small and forms a short flap or uvula, which passes through the prostatic ring on to the inner orifice of the urethra, and when associated with swelling of the organic muscles, induces retention of urine.

"2. The middle lobe grows chiefly in its long axis, retains its uvula-like form, and projects in the form of a cone with free lateral margins, so that its base is placed in front of the inner orifice of the urethra and its apex is directed towards the interior of the bladder.

"3. The fold is converted by growth into a square lobe, the base of which is connected with the pars intermedia, and the lateral margins and upper truncated extremity remain free.

"4. The middle lobe forms an irregular growth with its base in connexion with the pars intermedia and lateral lobes, so that it seems as if the whole gland had grown into the bladder in a manner analogous to the prolapse of an hypertrophied cervix uteri into the vagina. This last is probably developed from one of the earlier forms; as soon as the hypertrophy has reached this stage and is of a very great extent, that turning point in symptomology is certain, in which, after long continued difficulty in micturition, the opposite condition, enuresis, comes on. When once the middle and lateral lobes have grown together, and form a large misshapen and furrowed tumour, the muscular ring, the special sphincter of the bladder, is converted into a thin membrane stretched over the posterior aspect of the growth, and is not longer capable of acting so as to close the bladder—so that involuntary dripping of urine and inability to retain the contents of the viscus must necessarily ensue. This explanation of the enuresis, seems to Professor Dittel to be a more correct one than that laid down by Mercier, who attributed this affection to the sepation of the lateral lobes by the increasing growth of the middle lobe and the consequent permanent inclosing of the orifice of the bladder. This

explanation is manifestly somewhat forced, since it cannot be well conceived why the middle lobe, by its increase of size, should separate the lateral lobes, instead of growing towards the interior of the bladder, in which direction it may more readily spread.

Art. 221.—*On Laceration of the Perineum: its History and Treatment.*

By Hayes Agnew, M.D.

(*Pennsylvania Hospital Reports*, vol. i., 1868; and *American Journal of the Medical Sciences*, April.)

Dr. Hayes Agnew, in this paper, which is illustrated by fourteen woodcuts, after giving a brief description of the anatomy of the parts, considers the causation, degrees, results, nature of the deformity, prevention, and history of the cure of lacerated perineum; points out the proper time for operation, along with its indications and contra-indications; gives judicious advice as to the preparation of the patient; and, finally, describes an operation to which he has appended his name. This having been eminently successful in practice, and being as simple as it is efficient, we shall confine our analysis to the main points insisted upon by its deviser.

The bowels should be emptied thirty-six hours before the operation by a mild cathartic, after which a grain of opium is to be administered to render them quiet. The parts having been divested of hair, and the patient placed in the lithotomy position, the surgeon, seated in front of the perineum, seizes with the forceps one side of the laceration, and commences its denudation from behind forward. The paring should not extend deeply, and when completed should be one inch broad, and include a little of the labium and the vaginal mucous membrane. The opposite side is treated in the same manner, when the recto-vaginal septum is rendered tense, and its surface freshened to the extent of three-quarters of an inch. The bleeding having been controlled, the incisions are next to be approximated by deep and superficial silver sutures, commencing with the former, the first being introduced behind, or next to the rectum. Three or four of these will usually suffice, care being taken to insert them one inch exterior to the denuded border, and carry them so deeply as to have them include a little of the mucous membrane of the vagina. The superficial stitches, placed intermediate to the others, are inserted three-eighths of an inch from the edges of the wounds, and penetrate the skin and a little into the cellular tissue. The deep sutures are secured by shot clamped upon them, while the superficial ones are twisted in the usual way. To give additional support, a strip of adhesive plaster, two inches and a half broad and twelve or fourteen inches long, is placed across the nates, and the woman put to bed, with the knees bound together by a roller, a napkin being interposed to prevent

excoriation. When the recto-vaginal septum is torn to any considerable extent, its borders should be freshened, and approximated by silver sutures, previous to the restoration of the perineum.

In reference to the after-treatment, it is advised that the diet be bland, that the bowels be kept at rest by small doses of opium, and that the urine be drawn off every five or six hours. The deep stitches are to be removed, in the reverse order of their insertion, at the expiration of seventy-two hours, the one next to the rectum, however, being permitted to remain another day, if it retains its hold firmly. The superficial sutures are to be withdrawn on the seventh day. On the third day, a tepid solution of the permanganate of potassa should be thrown upon the parts by means of a syringe, and this should be repeated daily. The bowels may be opened gently on the twelfth day, when they should again be locked up for one week, to permit the more secure consolidation of the parts. If everything has progressed favourably, the patient may be allowed to sit up after the sixteenth day.

The operation of Dr. Agnew has been practised in ten instances, all of which were perfect successes. It differs from the procedure of Mr. Baker Brown, of London, in that the sphincter ani muscle is not divided, and the quilled suture is replaced by the interrupted silver suture.

Art. 222.—*On Lithotomy.*

By Sir Henry Thompson, Surgeon-Extraordinary to H.M. the King of the Belgians.

The following are the principal steps of the operation as given by Sir Henry in a lecture delivered at University College Hospital:—

"The patient's bowels are to be thoroughly emptied by an enema a few hours before. Do not trouble yourself about the quantity of urine in the bladder. Some think it very important that it should be full. Cheselden, on the other hand, preferred it to be empty, saying that in this condition the stone was easily found close to the neck of the bladder.

"The first thing the operator does is to pass the staff into the bladder and find the stone. Never think of cutting a man if you are not perfectly satisfied that the staff is in contact with it. The 'click' is to be distinctly audible to yourself and to a witness, and the staff is to be put into the hand of your best friend, who is to attend implicitly to your instructions, and to no others, whatever they may be. The patient is then to be tied up firmly; better still if secured by those leather anklets and wristbands devised by Mr. Prichard of Bristol, because they truly realize the proverb, 'fast bind, safe find,' which our old friends the garters often did not.

"Now, what are the instructions to your friend the staff-holder? You want it held firmly, and, of all things, not to leave the bladder. I don't think you will gain much by cultivating a fancy for any particular

spot, such as right or left, or projecting in the perineum. If it is to be steady and in one spot, which is the main thing, there must be a point of support for it to rest against, and there is but one such spot in the whole region. Rely upon it, then, you had better tell him to keep it close to the arch of the pubes, well hooked up, with the handle pretty nearly vertical. Your fingers now traverse the region and find the lines of the rami, also the condition of the bowel, whether empty and contracted, or the reverse.

"Now relative to the first incision, different authorities advise different places at which to enter the scalpel and commence. Without discussing these, let me say that as a rule the usual spot should be for an adult an inch or an inch and a quarter in front of the anus, a little on the left side of the raphé. Go in boldly, slightly pointing upwards, near to or into the staff, and then gradually less deeply till you come out about three inches lower down towards the inner side of the tuber ischii. It is very pleasant to feel that you touch the staff in that first incision, and it saves trouble and uncertainty to have gone close to it, which you always ought to do; never let it be a timid, shallow cut, merely dividing the skin. The left index-finger follows, and should feel the staff easily through the tissues. Fixing the finger-nail upon it, the point of the knife is fixed firmly in the groove, and is run steadily on in contact with the staff. Keep the point up and you will be safe; let it down and you may slip out and get into the rectum, or nobody knows where. Simply go on, letting the blade be a little more horizontal as it proceeds. Go on till you are well into the bladder, not letting the point leave the staff. The depth of the incision will depend upon the angle which the knife makes with the staff: if you withdraw with the knife close to the staff, of course you will only make a wound the width of the knife; and if the edge is directed outwards and downwards against the soft parts, with a light hand as you come out, you will make a freer and cleaner opening. It is better to be rather free in cutting than otherwise [the presence of a large stone is assumed], but you must not make the incision too wide. There has been a great deal of good advice expended about this subject, the depth of the incision, but it is manifestly impossible for one man to make another understand what he means or what he does by any amount of talk. My belief is, however, that the result of our anxious care about this matter is, practically, that we are apt to cut rather too niggardly than too freely, and that the neck of the bladder, in consequence, receives severer injury from the stone and forceps than it otherwise would receive from the knife. This relates of course to adults; for in children you can scarcely find the prostate—it weighs but a few grains, and does not come in for a moment's consideration, and your knife goes far beyond its limits; yet these little patients are the safest to cut. Of course there is a very great difference in the two ages, due to the different conditions of puberty and childhood. To return. The incision being completed, your left index-finger immediately follows close along the staff into the bladder, where you will probably just touch the stone. The finger goes firmly and deeply in, stopping the urine perhaps to some extent in its outflow, and accomplishes some dilatation of the parts. Then you slide the forceps closely

along the palmar surface of the finger, and insinuate them into the bladder, which makes dilatation No. 2. Then, generally speaking, you have but to open the instrument carefully, yet widely, one blade flat at the bottom of the bladder, the other towards the top, and, closing the blades, the stone is probably between them. If it seems that you have a good hold, draw gradually outwards and downwards, easing or adjusting, if you can, with the left index; so you make the third and last dilatation. Remember not to pull out horizontally and bruise the parts against the pubic arch, but downwards into the widest part of the lower pelvic aperture. [Diagram.] And don't be hurried for the sake of anybody else. You and your patient are to be, for you, at this moment, the only persons present, and your responsibility to him must never be forgotten for an instant through the influence of bystanders and lookers-on.

"I must now briefly add that you will search for a second stone, tie any vessel spouting within sight, insert the tube into the bladder, and stuff the wound round it if the hæmorrhage is free. The patient is placed in bed on his back, with one or two pillows under each ham, and the parts involved exposed to air and light, so that you see how the urine flows. The less meddling afterwards generally the better.

"I have only time to say a word or two about the median and medio-bilateral operations. For the median, an incision is made in the line of the raphé from about two inches and a half above the anus, downwards as near to its margin as is safe, for you want all the space you can get. Dissecting down to the staff, with a finger in the rectum, and opening the urethra in the membranous portion or thereabout, you carry a director on into the bladder; your finger follows, and dilates, and then the forceps on that. Manifestly this will not do for large stones, which mainly, thanks to lithotrity, are what we have to deal with now. Hence the applicability of the 'median' is extended by making it 'medio-bilateral,' and in this manner. Having performed the median, as just described, up to the point of opening the urethra, instead of introducing a director, you introduce the two-bladed lithotome, and when it is in the bladder you open the blades, and two moderate incisions are made, one right, the other left, as you draw the opened instrument outwards in the groove of the staff. These two operations I have now performed about thirty times, and I do not know after all that there is much to choose between them and the old 'lateral.' To make an accurate estimate, one requires at least 100 cases of each operation by the same hand. Nevertheless, I may say a word, finally, on the principle which essentially distinguishes these operations. They are the result of opposite convictions respecting the hazard of the knife. There is a set of men to whom anatomy is a bugbear, and who are afraid of cutting as much as is absolutely necessary; and there are other men less timid —mind I don't say less cautious—who regard the larger, freer style of operating as better than the small or fearful style. All surgeons of course tend more or less to fall into one of these two classes. The anatomical school have devised a variety of median operations in order to avoid certain bloodvessels, &c., and they sacrifice space in doing so. They answer excellently well for small and medium-sized stones; but these are or should be crushed now, and we do not want any operation for

such stones. The perineal operation which offers the most room, the recto-vesical excepted, is the lateral operation. All the others named are essentially median operations. Now I am bound to say that formerly, judging theoretically, I had a leaning to the median method, being disposed to think that it would be attended with less hæmorrhage than the others. But I do not find this so in practice, and I have arrived at the conclusion that there is quite as much bleeding as in the lateral operation. I attribute this to the bulb. I regard the bulb as a large artery to all intents and purposes. You cut into that spongy tissue—not in all cases, but in some—and there is as much bleeding as if you cut the artery of the bulb, and more difficulty in controlling it. The bulb must be cut more or less in the median operation. The problem is how to get into the bladder without wounding the bulb, its artery, and the rectum; and I believe that a well-performed lateral operation accomplishes this, where a free opening for a large stone is required, better than any other."

ART. 223.—*Non-penetrating Wound of the Heart; Wound involving both Lungs; a Metallic Blade retained for Thirteen Months in the Thoracic Cavity.*

By M. TILLAUX.

(*Gazette Hebdomadaire*, No. 20, 1868.)

The following interesting case was reported to the Imperial Society of Surgery of France:—

A man, fifty-five years of age, attacked with general paralysis, passed into his chest a long iron blade, sixteen centimetres in length and two millimetres in breadth. On examining the thorax, M. Tillaux found a puncture situated about five centimetres below the left nipple, and two centimetres to the outside of and below this puncture was an energetic elevation of the skin, synchronous with the arterial pulsations; the stroke of a foreign body could be felt by the finger applied to this point. The left side of the chest was emphysematous, and a large ecchymosis extended round about the wound. The restlessness of the patient prevented percussion. The heart sounds were regular and normal; the elevation of the skin by the blade of iron coincided with the ventricular systole.

The presence of fluid in the pericardium could not be made out; there were no signs of abdominal lesions or of internal hæmorrhage. The pulse was regular and the temperature of the skin not raised. M. Tillaux was led to admit either the contact of the inner extremity of the foreign body with a large artery, or the penetration of the walls of the heart.

Immediate extraction of the foreign body was not performed, as this practice seemed to M. Tillaux to be more dangerous than an expectant treatment; on the following day as the foreign body had traversed the subcutaneous tissues, an incision was made over it; further proceedings, however, were stayed by an attack of syncope. A

few days after the patient complained of acute pain about the eighth dorsal vertebra; there were great oppression of breathing and expectoration of very red blood; there were no signs of pneumonia. Ten days later, the posterior and interior part of the right side of chest became painful without presenting any abnormal signs on auscultation. The bad symptoms gradually disappeared. The appetite returned, and the general condition of the patient improved.

In March, 1868 (thirteen months after the suicidal attempt), the patient had frequent expectoration of blood and pus. A "bruit de souffle" was made out at the base of the heart. The bad symptoms soon returned, and the patient died on the 24th of March.

At the autopsy the anterior margin of the left lung was found to be adherent to the thoracic wall and to the pericardium; the pericardium adhered to the heart over the whole of its extent. The posterior wall of the left ventricle and the inferior lobe of the right lung were traversed from before backwards, and from left to right by a piece of metal which had not penetrated the ventricular cavity nor involved the auricles. The foreign body passed to the right of the aorta between the vertical column and the œsophagus.

Art. 224.—*On Herniotomy without opening the Sac.*

By Dr. Doutrelepont.

(*Archiv für Klinische Chirurgie*, ix. Bd., 1868; *Gazette Hebdomadaire*, No. 20, 1868.)

This method of herniotomy, first carried into practice by Franco and Ambroise Paré, was subsequently taught and defended by Petit, and now bears the name of that surgeon. Velpeau and Vidal considered the operation of importance, and it was practised by Malgaigne, Bossuet, and other French surgeons. M. Doutrelepont has carefully collected the opinions of most German and foreign authorities, and has formed an analysis of twelve cases in which he operated for strangulated hernia without opening the sac. One only of these patients, a man, seventy-two years of age, succumbed on the fourteenth day, and, according to M. Doutrelepont, from some cause unconnected with the operation.

In two of the remaining eleven cases, the portion of epiploon accompanying the hernia could not be reduced. In nine instances the hernia was femoral, in the remaining three inguinal. The duration of the strangulation was about twenty-four hours in three cases; about thirty-six hours in two cases, and in some instances lasted from sixty to seventy-two hours.

Dr. Doutrelepont derives from these results the conclusion that when the intestine is not known to be gangrenous, reduction should be made before opening the sac and after making multiple incisions at the seat of constriction.

The author hopes that these favourable results will again attract the attention of surgeons to an operation which seems to have been neglected in recent times by German surgeons.

(C) CONCERNING THE UPPER EXTREMITY.

ART. 225.—*On the Treatment of Hæmorrhage from the Hand.*

By Dr. P. HORTELOUP.

(*Gazette Hebdomadaire*, No. 13, 1868.)

Severe hæmorrhage from one or more of the numerous arteries existing in the palm of the hand is a frequent complication of insignificant punctured wounds and cuts with long and narrow instruments. Profuse bleeding from the palm is, however, most commonly caused by the breaking of a bottle or glass in the hand, or by the penetration of a small piece of a porcelain vase broken by violent squeezing, or crushed by the weight of the body.

The usual seat of this kind of injury is the thenar eminence: in 33 cases of wounds of the hand collected by Dr. Horteloup this region was involved in 15 instances, the palm of the hand in 11, the hypothenar eminence in 2, the posterior aspect of the first interosseous space in 2, and the fourth interosseous space also in 2; the seat of the wound in the remaining two cases is not mentioned.

The arterial branches most frequently injured in wounds of the palm are the superficial palmar-arch and the radio-palmar artery: wounds of the deep arch are much less frequent, and are in many instances open to doubt. Dr. Horteloup has observed but six cases in which this arterial arch was wounded.

Treatment.—Compression, a proceeding instinctively applied at once to arrest the flow of blood until further steps are decided upon, has also been carried out with some success, as the chief method of treatment. In 1835 two cases were reported by Dr. Galias, in which hæmorrhage from the superficial and the deep palmar-arch was successfully arrested, and a cure brought about after applying direct pressure by means of a large pair of spring forceps with expanding blades, one of which was placed over the dorsum of the hand and the other over the wound in the palm. The chief objection to the treatment by direct compression, either according to Dr. Galias's method or with compresses and bandaging, is the frequent occurrence of a false aneurism after the hæmorrhage has been arrested and the wound almost entirely closed. Out of 16 cases in which hæmorrhage was arrested by direct pressure alone, in 8 the apparent cure was followed by the formation of a false aneurism.

Dr. Horteloup objects to the application of a solution of perchloride of iron or of the actual cautery in order to arrest the hæmorrhage. As the skin wound is generally small, this kind of treatment cannot in most instances be applied directly to the bleeding artery.

When the hæmorrhage from the palm of the hand cannot be permanently arrested by direct or indirect compression, the surgeon must choose between the two methods of applying a ligature at some point or points above the wound,—Anel's operation, or tying the bleeding artery after opening up the wound itself.

The chief objection to the first method, in which a ligature is applied

to the arteries of the forearm, arm, and axilla, is that a cure can only be brought about by suspending the course of the blood until such a period when the granulations have contracted a sufficiently close adhesion to resist the impulse of the blood carried to the parts beyond the ligature by the collateral circulation. The hand being one of the most vascular parts of the body, the most favourable conditions exist there for the rapid establishing of a very extensive collateral circulation. M. Robert believes that the permanent arrest of palmar hæmorrhage can be insured only by deligation of the axillary artery.

To prove the inefficacy of deligation of the large arteries in the arm and forearm for the arrest of hæmorrhage from the hand, M. Horteloup gives the details of three cases : the first occurred in the practice of Mr. Skey at St. Bartholomew's Hospital; the patient, who was a middle-aged man, was admitted in consequence of profuse bleeding from a wound in the palm of the hand; the radial, ulnar, and brachial arteries were tied, but with no permanent results. After a prolonged treatment cure was at last perfected by deligation of the axillary artery. In the second case, M. Demarquay finally succeeded in arresting the hæmorrhage by tying the injured artery in the palmar wound, after direct pressure, the local application of perchloride of iron, and a double ligature to the arteries of the forearm had been resorted to without success. The third case was one of wounded radio-palmar artery. In this direct compression and subsequently deligation of the brachial failed to produce a permanent cure, which was at last effected by enlarging the wound in the ball of the thumb and tying the radio-palmar artery above and below the wounded spot.

M. Horteloup is in favour of extending the wound in the palm of the hand, and applying a ligature to the artery at the seat of injury. It is stated that the search for the superficial palmar-arch is not a difficult proceeding if a longitudinal incision be made over the wounded part and through the wound in the skin. If the lips of this longitudinal incision cannot be separated to a sufficient extent, a transverse cut may be made without causing danger. The superficial arch is covered by integument only, and the palmar aponeurosis passes over the nerves and the sheaths of the tendons, from which it is separated by a thin cushion of fat. The radio-palmar artery is quite subcutaneous, or passes between some superficial fibres of the short adductor of the thumb, the incision by which this artery may be exposed will not implicate any important part.

The search for the deep palmar-arch will be attended with greater difficulty; but this vessel is much less frequently wounded. In four cases, observed by M. Horteloup, in which he presumed that this vessel had been injured, the seat of the wound was the thenar eminence, in which part the radial artery is situated superficially between the tendon of the long abductor, and that of the flexor corpi radialis, and may be ligatured without difficulty.

It has been objected to this method of treatment that the necessary manœuvres for exposing the artery cause severe inflammation of the tissues in the palm of this hand. This, however, has not been often noticed, and M. Horteloup thinks that it would not occur after exercising a necessary amount of prudence during the operation. The

inflammation following the deligation of the wounded artery in the palm is more frequently due to the previous application of compression and the use of perchloride of iron in solution; and even when it does occur, is less formidable than the partial or complete gangrene of the extremity occasionally produced by ligature of the axillary.

M. Horteloup thinks that in cases of wounded artery in the palm of the hand, compression should at first be applied over both radial and ulnar arteries, and then if the hæmorrhage persist that incision should be made over the bleeding artery and search made for the seat of injury. These incisions will not be altogether useless, for even if the artery cannot be exposed and tied the wound would be converted from a deep into a superficial one, and recourse might be had to the actual cautery.

Art. 226.—*A Case of Excision of the Wrist by Lister's Method.**

By J. W. Hulke, F.R.S.

(*The Lancet*, March 21.)

The author briefly points out the differences of Lister's method of excising the wrist from the common methods by lateral incision, or by a single cut across the back of the joint, and then narrates a case where he successfully employed it. The patient, a groom, had disease of the left wrist, of several months' duration. After other plans of treatment had failed, the author removed all the carpal bones, and the ends of the radius and ulna, as also those of the metacarpal bones, by Lister's method, and the patient recovered such a useful hand that he became coachman to a nobleman, and drove a brougham in town.

Art. 227.—*On Excision of the Wrist-joint.**

By James F. West, F.R.C.S., Surgeon to the Queen's Hospital, Birmingham.

(*The Lancet*, March 21.)

This paper on excision of the wrist-joint, gives an account of three cases in which that operation has been performed at the Queen's Hospital, Birmingham, with marked success, and is accompanied by photographs showing the state of the parts some months after the operation. The history of the operation was briefly recited, particular attention being called to Professor Lister's memoir on the subject, by which the cases suitable for operation are more clearly defined, and many minute yet important points in the treatment of the cases subsequent to the operation are made out. Mr. West insisted on the importance of early removal of all the carious portions of bone, but the retention of those parts, either of the radius and ulna, or of carpal bones,

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* Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society, March 10.

which appeared free from disease; he also advocated free separation of the thumb from the rest of the hand during the treatment of the case, so as to counteract the tendency to inversion of the thumb, which always follows excision of the wrist; and further, the early use of passive motion of the fingers, with a view to prevent their becoming stiff and useless. In the first and third cases the whole of the bones entering into the formation of the wrist-joint were removed; in the second, a carious fragment of radius, extending for about an inch above the joint, was alone removed. The patient recovered in each case with a hand having considerable strength and mobility, after a variable period of time, extending from three months to two years.

Art. 228.—*On a New Method of Reducing Dislocation of the Head of the Humerus.*

By Dr. Heine, of Heidelberg.

(*Deutsche Klinik*, 46, 1867; and *British Medical Journal*, February 22.)

At the Frankfort meeting of German Naturalists and Physicians, Dr. Heine described the following novel plan of reducing a luxation at the shoulder-joint. The case in which it was first applied with success was one of subclavicular luxation of the humerus of seven weeks' standing. Extension and other means of reduction had been attempted with the aid of chloroform; but with no success, as the head of the bone could not be lifted over the anterior border of the glenoid cavity. The elbow of the affected side being bent at a right angle, Dr. Heine grasped the arm with his right hand and the forearm with his left: he then raised the extremity to the vertical position and forced the elbow backwards, so that the upper arm formed an obtuse angle with the posterior surface of the neck (hyper-elevation and retroflexion). The humerus was thus converted into a lever of the second form. The scapular formed the fulcrum upon which the surgical neck of the humerus rested, and the head forming the short arm of the lever was, whilst the shoulder was forced by an assistant, readily brought up to the level of the articular surface of the scapular. The arm was then circumducted from behind forwards—the head of the patient being turned to the opposite side; and as it was finally depressed and rotated inwards, the head of the humerus slipped audibly into the articular cavity. The action of the limb was now free, and the patient in a short time was able to perform nearly all the normal movements.

Art. 229.—*Respecting Rupture of the Axillary Artery in reducing Dislocation of the Shoulder-joint.*

By George W. Callender, F.R.C.S.

(*St. Bartholomew's Hospital Reports*, vol. ii.; and *British and Foreign Med.-Chir. Review*, January, 1868.)

In this paper Mr. Callender relates some cases in which the axillary artery was accidentally torn, the first case being one which occurred in

his own practice at St. Bartholomew's Hospital. The patient was a man, aged sixty-one, who had a dislocation of the head of the humerus. It had been reduced when the accident first happened, but had recurred in consequence of injudicious movements made on the part of the patient and his friends. When he came to the hospital the dislocation was reduced only with very great trouble; and as simple extension had failed, the object was at last obtained by circumduction of the humerus; but immediately after the reduction a swelling was perceived beneath the pectoral muscle, and it resisted all the ordinary means used for its dispersion, till at last it was determined to perform an operation both for the removal of effused blood, which it was conjectured had flowed from the rupture of the axillary artery, and for the ligature of the artery itself. The axillary space was accordingly opened, and the coagula and the effused blood were removed, after which the artery was tied in two places and divided between the ligatures. The patient did well for a few days; but he subsequently died suddenly, with symptoms of pulmonary embolism. After relating this case, Mr. Callender refers to other cases of the same accident, thirty-one in number, which are arranged into classes according to the general characters they present. The conclusions drawn from the consideration of all the cases are generally that the axillary artery has been known occasionally to give way from accidental causes; that this rupture is a rare accident; that it has usually occurred during extreme extension, when the head of the bone has been twisted round in effecting the reduction; that the accident has happened to persons above fifty years of age, the dislocations being old or the artery being diseased; and that, although the occasional occurrence of the accident does not contra-indicate the attempt to reduce old dislocations, yet that caution should be observed so as not to overstretch the vessel by circumduction and extreme extension.

ART. 230.—*A Case of Spontaneous Cure of a true Aneurism of the right Axillary Artery with concomitant deficiency of the left Subclavian Artery, and a corresponding Impediment to the Circulation.*

By Dr. BERNHARD BECK.

(*Deutsche Klinik*, No. 44, 1867.)

In May, 1866, Dr. Beck was consulted by a man, forty-four years of age, and a nailmaker by occupation, who had been affected for one year and a half with a pulsating tumour in the right axilla. On a close examination of the prematurely aged patient, the following important changes in the circulatory system were discovered:—

In the right subclavicular region near the axilla, and also in this latter region, was presented a pulsating tumour of the size of a walnut. Its beats were clearly of an eccentric character, and synchronous with the passage of the blood into the axillary artery. The swelling, which could be felt in close connexion with the vessel, was roundish, saccular, and commenced at the upper margin of the pectoralis minor muscle; it extended into the hollow of the armpit, where the course of the

healthy artery towards the tolerably regular and saccular enlargement could be readily made out. The region immediately below the clavicle apparently was not involved.

On application of the finger, the walls of the sac were distinctly felt to be forced from within outwards by the shock of the blood; on compressing the strongly beating subclavian artery of the right side the pulsations ceased and the tumour collapsed, but after removal of the pressure the blood rapidly flowed in again, and the sac was refilled. On application of the stethoscope a shrill, humming and rasping sound could be heard, synchronous with the flow of the blood. In short, all the manifest diagnostic signs of an aneurism were presented, and the swelling could not be mistaken for a pulsating pseudoplasm, a gland, an abscess formed in the neighbourhood of an artery, &c. There was no œdema of the upper extremity, as compression had not been exerted on the axillary vein; there had been, however, in consequence of congestion of the nerves, severe pain in the armpit, and also a sensation of numbness in the whole arm, which prevented the patient from following his occupation.

No accident, as a fall upon the shoulder, or the outstretched hand, a luxation at the shoulder-joint, &c., had previously taken place, so the strong quaking movements of the upper extremity required in the occupation of a nailmaker and a simultaneous increase in the heart's action, were alone viewed as the causes of the pulsating tumour, which from its form, mode of origin, and the general character of its symptoms, was considered by Dr. Beck to be a true saccular aneurism constituted by all the membranes of the artery. In consequence of chronic inflammation of the inner coat of the artery, the epithelial cells undergo, like the muscular cells of the middle coat, a fatty degeneration, the tissue loses its elasticity, and the thinned walls of the vessel are expanded to spindle-shaped, cylindrical, or a more or less saccular pouch.

In the cervical region a strong pulsation of the carotid was observed, and it was also accidentally found that the pulsation in the arteries of the neck and head was more frequent on the left side than on the right, a condition subsequently explained by the discovery of a deficiency of the left subclavian artery. A pulsation was observed in the right external jugular, which was considered to have been due to no other cause than the influence of the dilated subclavian artery on the subclavian vein.

When an attempt was next made to acquire some notion of the condition of the vessels of the left upper extremity, it was found, with surprise, that there was a complete absence of the pulse not only in the arteries of the forearm, but also in those of the brachial region and the supra-clavicular fossa. At the spot of exit of the subclavian, where this artery can be readily flattened on the first rib, no beat, no thickened cord, in fact, absolutely nothing could be felt that might have led one to decide on the presence of the vessel. The same condition of things existed in the armpit, along the course of the brachial artery, and in the forearm. Only when the subclavian artery on the right side had been fully compressed, could there after a time be distinguished at the region of the shoulder over the transverse artery

of the scapula, and subsequently at the lower third of the arm at the inner border of the biceps and also over the radial artery, a very slight pulsation, as if produced by an artery of the calibre of a thin knitting-needle.

It was thus clearly manifest that the circulation in the great canals was completely arrested, and that the blood by means of a collateral circulation derived from such branches as the cervicalis ascendens, the transverse scapular, and the transversalis colli, was carried in small quantities to the arrested arteries of the arm. This condition was either due to complete defect of development, namely, a congenital deficiency of the subclavian artery, or resulted from adhesive inflammation and thrombosis, ending in complete occlusion of the vessel. To the last supposition was opposed the fact that the patient from infancy had never been aware of any change in the condition of his upper extremity, and had never had any recollection of disease in the course of these arteries, the left arm had always been used like the right, and no difference had ever been felt in the temperature.

On examining the breast the second sound of the heart was found to be not altogether clear. A blowing sound pointed to a slight insufficiency of the aortic valves, and there was probably some contraction of the first portion of the aorta. No pathological condition was revealed in the remaining parts of the body. The circulation was everywhere normal.

Treatment.—Since there was, besides the true aneurism of the right axillary artery, another important arterial anomaly by which the flow of blood to the neck, head, and upper extremity was essentially impaired, it was hardly possible to carry out any plan of treatment by which the circulation in an important vessel is suddenly arrested. In addition to the fear of disturbed nutrition from sudden closure of the right subclavian artery, when there was deficiency or obliteration of the vessel on the left side, other active disturbances, as hyperæmia, laceration of the vessels, &c., were to be apprehended through the great tension and increased pressure of the blood, which must necessarily be driven from the arch of the aorta with great force into both carotids, and into the branches of the subclavian which arise on the inner side of the scaleni muscles. In tying the subclavian artery, the surgeon should also always take into consideration the danger of an early separation of the ligature before the artery has been sufficiently plugged and the resulting fatal hæmorrhage. Dr. Beck's view concerning the treatment of this case was to increase the amount of fibrine in the blood and to lessen the heart's action, by attention to the patient's diet and habits of living, by rest, by a diet consisting of little flesh, but chiefly of farinaceous food, and by abstinence from spirits. The local treatment consisted in compression, so as to bring about a contraction, or possibly a complete removal of the aneurism.

A firm pad of charpie covered by compress was placed in the axilla over the pulsating tumour, and afterwards a broad gummed bandage was carried over the tumour from the axilla to the shoulderblade; in order to prevent displacement of this apparatus, it was bound around the neck and under the left armpit by other pieces of bandage. The right upper extremity was flexed at the elbow, and bound to the trunk

by bandages arranged in the manner of Desault's apparatus for fractured clavicle, and carried in various directions so as to keep up pressure on the aneurism.

For the purpose of facilitating the establishment of the collateral circulation, and the formation of clot in the sac, and also to favour the gradual increase of the vessels of the left upper extremity, digital compression of the right subclavian at the level of the first rib was attempted on eight occasions. These manœuvres, as was anticipated, could not be tolerated even when the vessel was imperfectly closed, since disturbed cerebral circulation, vertigo, and a beating sensation were produced by the increased flow of blood to the head, and also severe pain in the nerves affected by the pressure.

The patient remained under the care of Dr. Beck for ten days without any visible result from the above treatment; he was at the end of that time permitted to leave the hospital with the promise that he would live in the manner prescribed, and constantly wear the pressure bandage.

Some time after, Dr. Beck again saw his patient, and to his delight and surprise found that the aneurism had completely disappeared, and that pulsation no longer existed. On a close examination it was made out that the subclavian artery on the first rib was altogether obliterated, and that the axillary aneurism had been perfectly plugged by coagula, and converted into a scarcely palpable cord. No pulsation could be felt either along the course of the axillary artery, or in the arm and forearm. The right upper extremity was somewhat slimmer than the left, the fingers were yellowish, the function of the skin was diminished, the temperature was lower. (In the right axilla it was 37·3 C.; in the left, 37·8 C.; in the right forearm, 36 C.; in the left, 37 C.; in the right hand, 35·8 C.; in the left hand, 37 C.) All the movements of the limb could be performed, but fatigue soon came on, so that the patient's labour was frequently retarded. There was no longer pulsation of the external jugular, since the subclavian vein, in consequence of the obliteration of the artery, was no longer affected; the right carotid pulsated actively and gave out, on application of the stethoscope, a wave-like sound, which was increased with each beat. The collateral circulation of the right upper limb seemed to have been derived from the vessels of the first part of the subclavian, and probably from some branches of the carotid. Pulsating vessels could be found in no part either of the shoulders or of the clavicular region.

The pulsation in the left arm and forearm was increased. The lower third of the brachial artery and its branches in the forearm had increased in calibre; here and there in the region of the shoulder a small beating vessel could be made out. No changes could be found in the course of the axillary and subclavian arteries, and no signs of the existence of these vessels could be recognised. The condition of the heart was somewhat improved. The cavities were not enlarged, and the blowing sound remained very indistinct; the heart's action remained the same.

The following history of what had occurred since he left the hospital was given by the patient. The pressure bandage was worn for eight weeks after his return home; during this time the man felt the pulsations continually lessening; the tumour diminished and became firmer;

the severe pains in the axilla also abated, and the sensation of numbness ceased. The patient then, finding confinement irksome, removed the bandages, and applied over the tumour only a band of caoutchouc, with which he recommenced work. His occupation was carried on with intermissions, as he was soon fatigued; in spite of the exertions no unfavourable changes were excited in the tumour, but, on the contrary, the aneurism visibly diminished in size, and its beats became weaker. After the patient had been at work for several weeks, he one day suddenly lost the use of his hand, and his hammer dropped upon the ground; the skin of the arm became white, the pulsation of the vessels could no longer be felt, and the temperature of the whole limb and of the hand especially was strikingly lowered. The fingers turned to the colour of yellow wax, and the extremity wasted.

Remarks.—At this time the axillary artery below the sac was surely completely closed by a plug of fibrin, and the circulation of the limb consequently arrested. As the collateral circulation from the branches of the first part of the subclavian had already been established in consequence of the gradual contraction of the sac and the diminished flow of the blood through the large artery, no dangerous disturbances of nutrition had resulted.

The details of this complicated and rare case of true aneurism of the axillary artery supply fresh proof that it is possible for a pulsating tumour to be cured, even under the most unfavourable conditions, by a resort to compression. Compression applied directly as well as indirectly, so as to produce not a sudden arrest, but a gradual obstruction of the circulation, ought to be looked upon as not merely the least dangerous, but also as the most effectual plan of treating aneurism; and should be applied when practicable in the great majority of cases before the surgeon is compelled to have recourse to other proceedings.

Art. 231.—*Case of Medullary Tumour of the Arm; Amputation of the Limb and Scapula: Death.*

By Kenneth M'Leod, A.M., M.D., L.R.C.S.L., Civil Assistant-Surgeon, Jessore.

(*From the Indian Medical Gazette*, vol. ii.)

The following highly interesting case is placed on record by Dr. M'Leod:—

"On Saturday, 29th June, 1867, a boy, about two years old, was brought to the Jessore Charitable Dispensary with an enormous tumour of the right arm, extending from the elbow to the infra-spinous fossa of the scapula. The child's parents stated that the tumour had existed at birth, and was originally small, but that it had increased much and rapidly of late, and that the child had strong fever, and was falling off in health. The tumour measured seventeen inches in circumference, and was tense and fluctuating; the skin covering it was smooth and distended, and the superficial veins much enlarged. The patient was in a high fever, and though not much emaciated, was wan and feeble-looking.

"An exploratory puncture was made with a small trocar, but only a

few drops of straw-coloured fluid issued. After a careful examination, Dr. M'Leod found that the tumour was so intimately connected with the muscles in the infra-spinous fossa, that any operation for its removal must include the scapula. Believing that the fever was symptomatic, finding the other organs healthy, and feeling that amputation gave the only chance of saving the child's life, he proposed it to the parents, and obtained their consent. The operation was performed on the 30th June. The patient having been put under chloroform, Dr. M'Leod took a semilunar flap from the front of the armpit and shoulder, and cut down at once through the pectoralis major and minor on the axillary vessels. These were secured immediately with a ligature, but the vein discharging copiously, and a large branch (acromial) quite close to the ligature on the artery bleeding actively, a needle was passed through the skin under the vessels, and thrust the point outwards and upwards so as to rest on the clavicle. This expedient completely and at once stopped all bleeding. The remaining steps of the operation were rapidly performed. The clavicle was cut through and the scapula drawn out from the body; the axillary glands, which were enlarged, were swept away. The serratus magnus was severed close to its scapular attachment; the trapezius, omo-hyoid, and levator anguli scapulæ were divided at their insertions; the rhomboids were next cut, and the latissimus dorsi divided near its insertion. The whole arm and scapula were then removed. The supra-scapular artery was the only one requiring ligature, and the semilunar flap fitted accurately into the concavity of the other flap. The whole wound was sutured and looked exceedingly neat. The child recovered from the chloroform, began to move about, and drank some milk. Dr. M'Leod gave directions for its management, and left it in hopes that all immediate danger was past. He was greatly mortified when he heard that, soon after he had left the child, it grew pale, showed signs of oppressed respiration, and soon died. Death could not have been caused by loss of blood, for the amount lost was comparatively small; so that Dr. M'Leod is forced to the conclusion that the shock of the operation, coupled with its previous condition, was too much for the child.

"The tumour consisted of a number of cells or cavities, lying in firm white tissue. These cavities communicated with each other, and contained some soft, friable, curd-like matter, and a straw-coloured fluid which coagulated on emission. In some of them a colloid substance was apparent. The diseased mass was nowhere bounded by any cyst, but was gradually lost in the healthy parts. The bone was not involved, but all the muscles of the arm and infra-spinous fossa were more or less diseased. All the morbid texture had been removed by the amputation.

"No post-mortem of the body was obtained. The tumour was forwarded to the Medical College Museum, and its microscopic appearances are thus described by Dr. Colles, the Officiating Curator, in a letter to me.

"'The "soft, friable, curdy matter" contains hardly a trace of stroma. It consists, besides a large quantity of fat globules and granules, of cells, some of which are oval or circular, with granular contents, and without nuclei. Others are polygonal, fusiform, or caudate, with well-

marked nuclei, and (in many cases) nucleoli,—and, in short, possess all the characters of the so-called "cancer-cell." The firm white tissue of the tumour contains the same elements, entangled in the meshes of a remarkably dense and closely-woven stroma of white fibrous tissue.'"

Dr. M'Leod is of opinion that the implication of surrounding parts and tissues—the rapid growth and enormous size—the vascularity and tension of the skin—the semi-fluctuating feel of the mass, and above all, the characteristic microscopic appearances, certainly bring it under the category of medullary growths.

(D) CONCERNING THE LOWER EXTREMITY.

ART. 232.—*On Luxation of the Foot, forwards, or of the Leg, backwards.*

By M. HUGUIER.

(*Gazette Hebdomadaire*, No. 5, 1868.)

In a paper presented to the Academy of Sciences, M. Huguier stated that he had been led from experience to recognise two very different forms of displacement of the foot forwards. In the first form there is a luxation from exaggeration of the natural bending movement of the leg upon the foot or the foot upon the leg; this M. Huguier proposes to name luxation of the foot forwards by flexion or by oblique gliding.

The second form of luxation is one from direct gliding of the foot upon the leg, or the leg upon the foot, the tibia being at a right angle to the astragalus, whilst the limb is placed either horizontally or vertically. This is designated the forward luxation by direct gliding, or "la luxation en tiroir."

The latter form includes two varieties.

In the first it is the foot that is dislocated whilst the leg is immovable.

In the second, the leg is displaced, the foot at the time being fixed upon the ground; this variety was designated by Sir Astley Cooper and by Malgaigne, luxation of the leg backwards, a name which has the disadvantage of unsettling classical customs and establishing confusion in science.

ART. 233.—*On Luxations of the Astragalus.*

By M. A. DUBRUEIL.

(*Gazette Hebdomadaire*, No. 3, 1868.)

According to M. Dubrueil there are three perfectly distinct forms of luxation of the astragalus:—

1. Complete luxation, in which all the articulations of the astragalus

(tibio-astragaloid, astragalo-calcancum, and astragalo-scaphoid) have lost their normal relations.

2. Sub-astragaloid luxation. The tibio-tarsal articulation is intact; the displacement occurs in the articulations of the astragalus, with the calcaneum and scaphoid.

3. In the last form, the astragalo-scaphoid articulation has lost its proper relations; there is a subluxation at the bend of the foot, but the articulations of the astragalus with the os calcis have escaped free. Of this last form there is but one variety, whilst the preceding forms present several.

In two cases reported by M. Dubrueil, the head of the astragalus was luxated downwards, a displacement which seems to be due to a combination of a movement forwards of the astragalus, and of an alternating movement of this bone around its transverse axis, the latter carrying the head of the bone towards the plantar surface of the foot.

This form of luxation, M. Dubrueil purposes to call inferior pre-astragaloid, to which, however, there might be the objection that the name is not conformable to the rules of the nomenclature of luxations, according to which the scaphoid ought to be considered as dislocated from the astragalus; but the motives which led to a departure from the ordinary rules, when the denomination of sub-astragaloid luxation was established, seem to M. Dubrueil also applicable to the variety of luxation in question.

Art. 234.— *On the so-called Chopart's Operation.*

By Professor H. Fremmert, of St. Petersburg.

(*Archives für Klinische Chirurgie*, 1867; *Schmidt's Jahrbücher*, No. 1, 1868.)

The operation in question was first performed by Vivier, in 1780 or 1781, but was described for the first time by Chopart, who performed it in 1791. The applicability of this proceeding was at a later period very much doubted, partly because of the anatomical difficulties in the way of its performance, partly because of the protracted cicatrization, partly because of the danger resulting from gangrene of the flaps and from inflammation of the tendinous sheaths, and also because of subsequent ulceration and neuralgia in the scar. The most unfavourable result, however, is the retraction of the foot producing a stump like the foot of a horse. The following description has been given by Verneuil of the formation of such a result. The calcaneum was dragged up behind the tibia, to which it was almost parallel; its cuboid end was directed towards the ground, and its upper horizontal surface towards the posterior border of the articulating surface of the tibia, where a false joint had been formed; the astragalus was dislocated so that only the hinder part of its articulating surface was in contact with that of the tibia; the tendons of the flexor muscles were retracted, the tendo Achillis was tense, and the gastrocnemii muscles were apparently in a state of contraction.

This displacement of the bones of the foot left after Chopart's amputation was attributed by Petit, Larrey, Chelius, Stromeyer, Dieffenbach, and others, to the preponderating action of the muscles of the calf over

the antagonistic muscles. It was, on the other hand, held by Sédillot, Szymanowski, Weber, Emmert, and others, that this result of Chopart's amputation depended upon contraction of the tendo Achillis, an anatomical peculiarity of the tibio-tarsal joint, and upon the removal of the arch of the foot. Fremmert believes that the tension of the ligaments prevents the fall of the arch of the foot, but that a displacement of the bones is produced through destructive inflammation of the capsule, and through removal of the hollow of the joints by serous effusion. This displacement comes on always after inflammation has been sooner or later set up in the capsule; also soon after the operation, and sometimes at a later period, the sole of the foot is then directed inwards, and the heel backwards and upwards, the astragalus is forced downwards and forwards, the skin is much stretched over its pulley, the extremity is shortened, the movements of the stump restricted, and the calf in a condition of atrophy. In cases of extreme elevation of the heel recovery is rare.

With regard to treatment, Fremmert considers as useless the division of the tendo Achillis, performed by Petit, Larrey, Velpeau, Nélaton, Stromeyer, and others. He lays no great stress upon the plan of operation and the formation of the flaps, but prefers that method in which the dorsal flap is not made too short, and in which it is dissected away close to the bone, because in this case the tendons may possibly adhere to the joint surfaces of the astragalus and calcaneum. An operation is recommended in which other bones of the foot are retained besides the astragalus and calcaneum, a larger plantar surface is thus gained, and the seat of operation is removed further from the trunk. Of local appliances, &c., for the prevention of raising of the heel, Fremmert prefers the perforated gypsum bandage of Szymanowski, and he makes the patient lie upon his side; a boot is also used, deepened at the heel and made with an inclined plane having its highest point at the cuboid end of the calcaneum, or furnished instead with a small cushion. To bring about an ankylosis of the ankle-joint is held by Fremmert to be a dangerous and unjustifiable proceeding.

In conclusion a case is reported of a young woman, twenty-two years of age, who had both her feet amputated by Chopart's method, in consequence of frost-bite. The left foot was removed on May 11th, 1864, the right, ten days after. The dorsal flap in each case was dissected up close to the bone, and a plantar flap of equal size was also made. The anterior margin of the flaps was marked out by the line of demarcation. With the exception of an erysipelatous attack in the left foot, the progress of the cure was normal. No tendency to elevation of the heel was ever presented by the stumps. In July, 1865, the patient could walk with certainty, but could not bend her body forwards to any great extent. Short beak-formed boots were worn, the points of which were stuffed with cotton-wool. The movements of the ankle-joint, especially that of flexion, were good.

Art. 235.—*Remarks on the Rectangular Talipes Equinus of Orthopædic Surgery.*

By Holmes Coote, F.R.C.S.

(*St. Bartholomew's Hospital Reports*, vol. ii.; and *British and Foreign Med.-Chir. Review*, January, 1868.)

The condition here described is when the patient walks on the sole of the foot, but cannot raise the foot beyond the right angle to the leg, in consequence of the tense condition of the tendo Achillis. The inconvenience is not very great in persons who are not obliged to work; but in those who are, treatment becomes absolutely necessary. Mr. Holmes Coote does not believe that the affection is congenital. The treatment consists in removing any cause of excentric irritation, as decayed teeth, irregularities of the menstrual function, &c.; giving alterative medicine and employing stimulating liniments; in using steady and continued extension by Scarpa's shoe; but in most cases the division of the tendo Achillis becomes ultimately necessary.

Art. 236.—*On Ablation of Fractured Malleoli in Luxations of the Foot, complicated by issue of the Bones of the Leg through the Integuments.*

By M. Sédillot.

(*Archives Générales de Médecine*, No. 12, 1867.)

The following is a *résumé* of a paper read by M. Sédillot before the Academy of Sciences of Paris.

1. Resection of tibio-perineal articular surfaces and removal of the fractured malleoli seem to be the most favourable indications in the treatment of luxations of the foot complicated with an external wound and a projection of the bones of the leg.

2. Longitudinal incisions ought to be extended on both sides of the leg, beyond the osseous extremities, so as to open up largely the tibio-tarsal articulation, and to give a free exit to effused fluids and prevent their retention and putridity.

3. These incisions remove the tension and contraction of the integuments and favour reduction. The reduction of the osteo-cartilaginous surfaces also allows of the replacement of the dislocated bones, relaxes the tissues, and tends to make cure simpler and more rapid.

4. If the astragalus be comminuted, it will be necessary to remove loose fragments or even the whole bone; when a fracture cannot be made out, the surgeon may simply remove the superior or tibial osteo-cartilaginous layer, if the operation would not necessitate too much displacement or be attended with too great difficulty.

5. The articular fibro-cartilages separate from the subjacent bones, either entirely or partially, in open and suppurating joints, and then act as foreign bodies or are absorbed. These changes take a long time performing, which the surgeon may hope to abridge by resection.

The following are some auxiliary curative indications: immobility occupies the first place; reduction ought to be complete and the foot maintained at a right angle to the leg and slightly inclined inwards —its natural position; plaster of Paris splints should embrace the posterior part of the limb, the heel and the plantar surface of the foot seem to be the best points to apply extension.

Ankylosis is as a rule the best result to obtain. In young patients, however, and when the wounds are closed rapidly and without bad symptoms, the surgeon may attempt to form a false joint by passive and repeated movements. In all cases, the medio-tarsal and astragalo-scaphoid articulations assist, by their laxity, the restoration of the movements of the limb, and progression favoured by a slightly elevated heel is subsequently performed with ease.

Art. 237.—*On Resection of Articular Extremities of Bones in Cases of Fracture extending into a Joint.*

By M. Ollier, of Lyons.

(*L'Union Médicale*, No. 1, 1868.)

The following case of fractured leg was reported to the Société Impériale de Chirurgie.

The tibia and fibula were fractured and comminuted some centimetres above the malleoli. M. Ollier removed about five centimetres of the lower end of the tibia, and four centimetres of the fibula. Care was taken to preserve the periosteum and the ligamentous attachments.

To strip bones of their periosteum, laying them completely bare as by maceration, is not a very difficult matter in cases of chronic bone disease, as in suppurative ostitis, &c., the difficulty is much greater when the lesion is a primitive one. The operation is then slower because of the close adhesion of the periosteum to the bone, particularly in adult patients, and when the tissue has not been attacked by inflammation.

After resecting the lower extremities of the tibia and fibula, M. Ollier withdrew the astragalus from the cut surfaces, as he did not attempt to bring about a regeneration of bone in the long direction of the limb, but rather the formation of a fibrous or osteo-fibrous mass, which might serve as a bond of union between the resected extremity of the leg and the foot, increase the strength of the joint, and make of the whole one solid support.

The operation was performed on August 16th, 1866; in November, 1867, the patient was seen by M. Ollier, and the joint had then acquired remarkable solidity, and permitted the movements of flexion and extension. There was no trace of suppuration. This good result is partly due, M. Ollier thinks, to the application of an immovable plaster bandage to which he had recourse after the resection, and which he generally uses in the place of the gutter splint. M. Ollier's experience has led him to employ constantly the plaster of Paris or gypsum bandage after resections, provided there be no inflammatory complication. These

bandages are generally well tolerated by the patients, and bring about a more rapid consolidation of the divided parts.

The immovable plaster of Paris bandage, when applied in military surgery, has the great advantage of favouring the transport of patients, owing to the complete immobility in which it retains the joint. It effects an entire change in the condition of the patient, and by keeping the parts at perfect rest, prevents inflammation of the healthy tissues. When, however, there is reason to dread inflammatory reaction, the starched bandage ought to be applied in preference.

M. Ollier also resected the inferior extremity of the tibia in a second case of comminuted fracture of the leg, which was so severe that amputation was at first considered necessary. As the patient would not consent to the removal of the limb, twelve centimetres of the lower extremity of the tibia were removed, the section of the fibula was a limited one, so that two fragments might override one another in order to regulate the length of the limb.

The same precautions were taken as in the former case; the periosteum was preserved, and also the ligamentous attachments. The considerable loss of substance was repaired partly by osseous tissues, and the rest by a fibrous material. The patient recovered with his limb retained. Of this he could make good use with the aid of a very simple apparatus, applied for the purpose of correcting a slight outward turning of the foot.

From the result of these two cases, M. Ollier thinks that surgeons should be induced to substitute in analogous injuries resection for amputation of the limb. There is much less inflammatory reaction after resection than after amputation, the former operation is better supported, and owing to the immediate application of immovable bandages, it is easy to transport the patient to the country, where his cure is facilitated by superior hygienic conditions.

M. Ollier stated in conclusion that resection of the inferior extremity of the leg had been performed with success about two months previously by M. Broca.

Art. 238.—*On the Starched Bandage in simple Fracture of the Shaft of the Femur.*

By John Erichsen, F.R.C.S., Senior Surgeon to, and Holme Professor of Clinical Surgery at, University College Hospital.

(*The Lancet*, May 9.)

For the last fifteen or sixteen years Mr. Erichsen has used the starched bandage very extensively in University College Hospital. He has been more satisfied, perhaps, with the results obtained from the starched bandage than from any other method of treatment. But the starched bandage requires to be carefully applied; not to be put on too tightly, and yet to be applied tightly enough; and hence there is a little difficulty and a little special art in its application which sometimes interferes with its full utility.

In the use of the starched bandage in fractures of the thigh there are three points to be specially attended to. The first is that the limb should be very thickly wadded, covered with a very thick layer of medicated wool or cotton wadding. The second is that the bandage and pasteboard splint should be applied tightly enough over this wool to compress it well. The wool acts as a sort of buffer, being an elastic material between the bandage and the limb. The third point is that both the knee and the hip-joints should be very closely included in the starched apparatus, so that they may be rendered perfectly immovable. If there is any movement allowed either in the knee or in the hip, the success of the apparatus will be very materially jeopardized. There is a fourth and a minor point that is of importance, and that is, not to put too heavy a weight of the starched bandage on to the lower part of the limb. This should be well bandaged with a dry bandage, but it should not be too thickly coated with starch so as to give rise to too great a weight at the end of so long a lever as the straight starched limb forms under these circumstances.

By attention to these rules it will be found that the starched bandage is a most invaluable agent in the treatment of fractured thigh. The amount of success obtained by it upon the whole has been greater than that obtained by the long splint alone; and many cases, even in the adult, have been turned out of the hospital with scarcely any appreciable shortening after the starched bandage, and most commonly with not more than half an inch of shortening at the outside, which is a very good result in cases of oblique fracture of the shaft of the femur. In very many cases in the adult, Mr. Erichsen thinks it is useful to combine the long splint with the starched bandage; to put up the limb in the long splint for the first week or ten days till the parts have become quiet and it has become of a good length, and then to apply the starched bandage; and, as soon as the starch is set, to allow the patient to get up and to go out upon crutches, so as to avoid the lengthened confinement to bed. In an ordinary case of simple fracture of the shaft of the thigh bone, the patient may be allowed to walk upon crutches at the end of from twelve days to a fortnight if treated in this way. Children, indeed, may be allowed to get up at the end of three or four days, because the starched bandage may be applied from the very first in children and young people, where the swelling is not great, the muscular power small. In infants very little apparatus is needed, and what is used is apt to become soiled. But even in them Mr. Erichsen thinks gutta-percha or pasteboard splints, well wadded, should be applied, and retained by the starch or glue bandage.

Mr. Erichsen has tried other methods of fixing apparatus in cases of fractured femur—of rendering the apparatus immovable—such as plaster of Paris, glue, and other things; but none, in his opinion, is equal to the starch, for this reason: that the starch when well applied forms a stiffer and stronger, and also, what is very advantageous, a somewhat heavier coating. The heavier coating has a tendency to cause more complete relaxation of the muscles of the limb.

Art. 239.—*On Varicosity and Ulcer in the Lower Limb.*

By John Gay, F.R.C.S., Senior Surgeon to the Great Northern Hospital.

(*The Lancet*, April 4 and 18.)

In this paper the author attempts to show—

1st. That there are no substantial grounds for accrediting ulcers, on legs *with* varicose veins, to the diseased veins, in the relation of effect; that, in fact, the varicose ulcer, in the sense in which it is usually understood, is a fiction.

2nd. That when ulcer and varicosity co-exist, the veins are much more likely to suffer injury from the ulcer, than the ulcer from the veins. In fact, the veins cannot be brought within the confines of the ulcerative process without suffering in common with the other ulcer tissues.

3rd. That ulcers of the leg are, in relation to their pathological genesis, divisible into three species:—

1. The *simple* ulcer; that in which the morbid processes are limited to the confines of the tissues directly engaged therein.

2. The *venous* ulcer; most frequently with "bronzing" of the skin; dependent upon obstructive disease of the trunk veins, superficial or deep. And

3. The *arterial* ulcer, generally without discoloration, which is due to incompetency of the arteries, from disease of their coats.

In some cases, however, the two morbid changes which belong to the second and third classes are conjoined. All of these ulcers are capable of being more or less varied by secondary agencies, by which subordinate varieties are determined.

With regard to the treatment of these ulcers, Mr. Gay says that there is one rule which is universally applicable—namely, that rest is an essential part of their treatment, with the foot elevated above the pelvis in the ulcers of the first and second classes, and on a level with it in those of the third.

First with respect to the *simple* ulcer. There are no marked peculiarities in its conditions that cannot be reconciled with *action* on its immediate confines, subordinated to constitutional derangement. If it be acutely inflamed, bleeding is required by leeches or scarification (the latter across the edge of the ulcer is an excellent plan), hot applications, constitutional treatment, purgatives, calomel when the biliary system is deranged, and opiates. If the inflammation be subacute, and especially if the tissues be thickened and the edge welted, blisters should be applied over the surface and the affected border. It may safely be alleged that no one remedy is capable of so much general benefit as the blister, for which we are, Mr. Gay believes, indebted to Mr. Syme. Iodine or iodide of potash is an admirable remedy, especially if the ulcer has invaded the periosteum and occasions severe nocturnal pain. Irritability must be subdued by opium, with quinine or iron, and the use of a *strong* solution of nitrate of silver to the surface. If neuralgia exist, the offending nerve-filament must be tracked out and

divided, as Mr. Hilton recommends, and appropriate constitutional remedies administered. If it be combined with constitutional weakness, tonics and change of air, with generous diet, are required; and if with struma or syphilis, the remedies appropriate to these diseases. If the ulcer persist after the subjugation of secondary states or conditions and a certain period of rest, the *surface* should be destroyed by some powerfully destructive agent. The strong solution of the pernitrate of mercury twice or thrice applied, at intervals of two or three days, to certain sores that are thus found to be peculiarly obstinate, will seldom fail to induce cicatrization. This remedy when applied to certain specific sores, as syphilitic lupus, and especially secondary syphilitic *ulcers about the throat and palate*, seldom fails *at once* to change their character. To these parts, however, it must be carefully applied.

With respect to the *venous* ulcer, Mr. Gay knows but of one mode of inducing permanent cicatrization—namely, by those incisions at the edges to which he first drew the attention of the profession some years since; by which the veins are freely divided, as well as any dense tissues which, by maintaining a state of morbid tension, counteract the healing tendency. In all these cases the varicose veins above the ulcer should be obliterated by the ligature, *for their own sakes;* for they are functionally ruined, and worse than useless.

The *arterial* ulcer is incurable by any known means; and amputation is a resort full of risk, as the ulcer is so commonly associated with renal disease. If a fitting case offered itself, instead of amputation, Mr. Gay should propose tying the popliteal artery, with the object of closing up the diseased arterial trunks, and of obtaining a new arterial system.

Art. 240.—*Ulcer of the Leg.*

Hospital Out-Patient Practice.

(*The Lancet*, January 11.)

Comparison of the modes of treatment adopted for this common surgical ailment by the authorities whose names are here collected cannot fail, we think, to be of much interest to the profession.

St. Bartholomew's Hospital.—Mr. Thomas Smith adopts the following classification as most convenient for clinical teaching and therapeutical purposes. He believes it to be of first importance to decide whether an ulcer be of syphilitic origin, or whether it be due to other causes, such as anæmia, insufficiency of food, debility, old age, eczema, varicose veins, hypostatic congestion, or local injury. The diagnosis of syphilitic ulcers he grounds on the antecedents of the patient; on the position of the ulcers, usually above the middle of the leg; their number, often more than one, or if one only is open, scars of former ulcers are usually to be found. The shape of the sore is taken into account—usually crescentic or circular, if syphilitic; the condition of the surface of the ulcer, which, unless healing, looks rotten, and generally contains a core formed of dead tissue; while the edges and environs of these ulcers are often stained a dirty tawny red.

As regards prognosis, Mr. Smith's experience is that in a general way syphilitic ulcers are the most amenable to treatment. That the depth of an ulcer (within moderate limits) more unfavourably influences the chance of recovery than its extent; that ulcers over the subcutaneous surface of the tibia are more difficult to cure than those situated over the fleshy parts of the leg; that those sores that are based on the periosteum are well-nigh incurable; and that ulcers involving the whole circumference of the limb are incurable in out-patient practice.

Treatment.—Iodide of potassium and bark internally, together with black wash or red precipitate ointment locally, seldom fail to cure syphilitic ulcers. Inflamed, irritable, or painful ulcers in feeble people are treated with bark or quinine, and by the application of morphia ointment or water-dressing to the sore. The same state of the ulcer in free livers is found to be benefited by the use of purges in addition to the above treatment. *Healing ulcers* are treated with water-dressing or simple cerate. For chronic or callous ulcers, the red precipitate is found to be a serviceable local application, while the constitutional remedies vary with the state and circumstances of the patient. The *cold* ulcer, as described by Mr. Paget, is treated by tonics, with opium locally and internally. *Varicose* ulcers are treated on general principles; the heroic but successful treatment by ligature of the veins is not carried out, on account of its unsuitability to out-patient practice. Bandages are employed in the treatment of all ulcers. Sloughing sores, which are now of rare occurrence, are at once admitted into the hospital.

Guy's Hospital.—Mr. Bryant practically divides all ulcers into the cellular membranous and cutaneous sores: the former being invariably due to some general or constitutional cause; the latter probably to some local one. In the treatment of the cellular membranous sore, the remedies must be directed to the constitutional cause or cachexia which induced the disease, tonics being invariably required, and when syphilis is the origin of the affection, combined with the iodide of potassium. The local treatment in these cases is of secondary importance, water-dressing being in the majority of cases all that is necessary. In the treatment of the simple cutaneous sore a variety of measures are sometimes required; for an inflamed ulcer, which requires soothing treatment, has to be treated differently from an indolent sore, which needs stimulating; a sloughing sore, from excess of action, requires an opposite treatment to a sloughing sore due to a want of power. All these cases have to be treated upon ordinary surgical principles; for Mr. Bryant is apt to teach that there is no better barometric test of a patient's condition than the appearance of a sore: a healthy sore rapidly becoming indolent on a decline of the patient's powers, or sloughing, or any extreme depressing cause making itself felt; whilst, on the other hand, a weak or indolent ulcer rapidly puts on a healthy aspect on any improvement in the powers of the patient taking place. When a simple sore is inflamed, therefore, the local and constitutional symptoms are usually treated by opium lotion, and opium internally, with or without tonics. When a sore is indolent it is stimulated with nitric-acid lotion, or the terchloride of carbon lotion; and if connected

with syphilis, black wash. When a sore is sloughing from excess of action in the part, the constitutional irritability is allayed by opium, tonics, and stimulants; and when sloughing from excess of indolence in the sore, by local stimulating applications combined with tonics. When varicose veins coexist with the sores, bandaging the limb or strapping is, as a matter of routine, had recourse to, unless absolute rest can be maintained; and in all cases bandaging the limb is as a rule enforced. Any special treatment of ulcers Mr. Bryant looks upon as an impossibility, an ulcer, like an ordinary wound, requiring treatment adapted to the special cause of peculiarity.

Great Northern Hospital.—Mr. Gay founds the treatment of ulcers of the leg upon a classification differing materially from that of most writers, but least from that of Mr. Syme. His classification has a purely pathological basis, and recognises three kinds of ulcer—namely, the *idiopathic*, the *venous*, and the *arterial*. His treatment is concurrently simple.

The first is the ulcer that, traumatic or not in its origin, depends for its persistence upon local but not abnormal peculiarities in the vascular system in that portion of the limb in which ulcers almost invariably form—namely, between the ankle-joint and the calf.

An ulcer so situated, ever so simple, and in the healthiest individual, is very slow to heal on account of the inevitable tendency of the tissues involved to veno-capillary congestion and its consequences. But, beyond this, it is subject to modifications through the influence of the ever-varying conditions of the general health, as well as of constitutional taints, such as struma and syphilis.

Mr. Gay says that with this form of ulcer there are no morbid changes essential to the existence of the ulcerative process to be met with beyond the immediate sphere of its activity. Its typical form is the "broken shin."

The treatment is simple:—

1. *General.*—Rest, with the elevation of the foot above the level of the pelvis.

2. *Local and constitutional.*—When painful and inflamed, topical bleeding by leeches, or scarifications tolerably deep *across* the edges; warm-water dressing; moderate purgation, and opium. If the ulcer has become chronic and the base thickened, Mr. Gay recommends a slightly stimulant lotion—*e.g.*, dilute nitric acid and opium; or blisters, with the cautious administration of iodine or mercury, if struma or syphilis appear to exert an influence on the sore. If there is general want of power, stimulants, tonics, and good nourishment.

There are ulcers of this class, however, which resist these methods of treatment—extensive superficial ulcers, with a subacutely inflamed base, and with clots of gummy, ichorous discharge adherent to its edges. Mr. Gay believes that this ulcer persists by the propagation of the ulcerative action from the decaying molecules to the nucleated cells as they are evolved from the living tissues. Nothing short of the destruction of the surface will make such an ulcer granulate, and this is best accomplished by the solution of the pernitrate of mercury, once, twice, or thrice applied, at intervals of two or three days.

A large number of ulcers are associated with varicose veins. From

numerous dissections, and for other reasons, Mr. Gay doubts the alleged etiological relation of these disorders. *Remotely*, the veins might have such a relation to the ulcer; but this, he thinks, is by no means clear. *Directly*, they certainly have none, and tying the veins is of no real advantage to them.

There is a more severe form of ulcer, often coincident with varicosity, and as often without it, but very constant with discoloration—'*bronzing*"—of the skin, which Mr. Gay has traced to *obstruction*, by clot principally, *either of the saphenous or the deep venous trunks, most generally of the latter veins*. This is the "venous" ulcer.

Ulcers of this class are moderately deep, secrete abundantly, often bleed, and are situated either on a portion of indurated skin or skin rendered boggy by veno-capillary dilatation—the "tissu spongieux" or "caverneux" of the French writers. Such ulcers will heal by rest and elevation of the leg; but not permanently. Free elliptical incisions along either side of the ulcer constitute the only treatment that can secure for them permanent cicatrization.

The use of spiral bandages for the quasi "varicose ulcer" has been much extolled. Mr. Gay believes them to be useless, and the principle upon which they have been recommended a fallacy. They have been supposed to supply the place of valves that have become inert by disease. Mr. Gay avers, in the first place, that varicose veins as a rule are not endowed with valves; and secondly, that in veins in which they exist valves do not, as these bandages do, *interrupt* the current.

The "arterial" ulcer differs materially from the former kinds of ulcer. It is the large, deep, cold ulcer which often, with intervening islets of diseased skin, occupies the whole of the leg, from just below the knee to the ankle. As it deepens, so it invades fasciæ, muscles, bones, and even the deeper vessels.

Mr. Gay has traced these ulcers invariably to disease affecting the coats of the deep arteries of the limb, especially the anterior and posterior tibial. They are positively incurable by any means yet adopted; and amputation, excepting under exceptional circumstances of a *favouring nature*, is a very hazardous proceeding.

King's College Hospital.—In the more acute cases of varicose ulcer, and those attended by heat and pain, Mr. Wood finds that by far the most convenient, comfortable, and effective plan of treatment is by the acetate of lead and glycerine lotion placed on lint next the sore, changed every night and morning, and surmounted by a wet bandage, carefully adjusted, and kept moist by being wetted from time to time during the day. This plan has the additional and valuable recommendation of necessitating the important adjunct of cleanliness of the part. If the pain be very great at night, five grains of the opium and soap pill are given every night, and the bowels are acted upon daily by a sulphate of magnesia purgative. When the heat and inflammation subside, which soons occurs under this treatment, the lunar caustic is applied twice a week to the edges of the sore, which is then strapped with soap plaster. Strapping, however, is found not to answer in cases attended with an irritable eczematous condition of skin, in which small and troublesome ulcers are apt to follow its use in other places chaffed or galled by the

strapping. In such cases the continuation of the lotion and wet bandage to the end of the treatment answers best, with the internal administration of an acid tonic and occasional warm aperients, and opium at night. In obstinate cases of this kind the administration of the solution of the arseniate of potash with quassia infusion, about half an hour after meals, seldom fails to produce a cure.

In sloughing and phagedenic ulcers, with congested edges, dark-red granulations, and sanious discharge, rest in the recumbent posture is indispensable in the treatment, with aperients, succeeded by tonics and opium, administered internally. The local application from the first in these cases, in Mr. Wood's practice, consists of a solution of carbolic acid in glycerine-and-water, of the strength of about 3 or 4 per cent. of the pure acid. This is applied on lint, and covered with oiled cotton or silk and a light bandage. This has been found remarkably efficacious in cleansing the surface of indolent, ash-coloured, sloughing granulations, as well as in the more extensive sloughs, and in inducing healthy action and cicatrization.

In simply indolent ulcers the local application of the chloride or sulphate of zinc lotion, in the proportion of two to three grains to the ounce, is of the most use. If the edges of the sore are thick, indurated, and callous, the caustic chloride of zinc paste applied to the edges has been found to induce a more even and healthy cicatrization when the surrounding skin has not been too firmly bound down by induration.

In cases of irritable rupious, or serpiginous ulcer, with suspicion of a syphilitic taint, the fresh-made ointment of the red oxide of mercury is found, when it can be borne, the most speedily effective. It is usually combined with opium at bedtime, and when other signs of syphilidæ are present, with the administration of iodide of potassium. If the pain be very great, and the above ointment cannot be borne, the fresh-made mercury ointment rubbed well up with the extract of belladonna, in the proportion of a drachm of the latter to an ounce of the former, applied to the sore on lint, is usually effective in allaying the pain, and inducing healthy action.

In some cases, attended with but little discharge, strapping with soap-plaster over the lint spread with this ointment, and left on for two days, is found convenient and comfortable. In cases with inflammatory redness, however, a wet bandage so applied is better.

In weak ulcers, with pale flabby granulations, Mr. Wood uses locally an aqueous solution of the perchloride of iron in the proportion of two or three grains to the ounce, with the internal use of the tincture of the same preparation. Mr. Wood has employed, as a useful adjunct to the treatment in those troublesome cases of sores placed just above the tendo Achillis, continually stretched and irritated by tension in walking, a high-heeled shoe, or temporary pad placed under the heel, until cicatrization has fairly progressed. It must, however, not be continued too long, for fear of promoting permanent contraction.

St. Mary's Hospital.—Mr. Norton endeavours to simplify the treatment of chronic ulcers of the leg by dividing them into three classes,—1st, inflammatory; 2nd, non-inflammatory; 3rd, those due to an existing local cause.

Under the first head, he considers those ulcers around which the integument is reddened, swollen, puffy, and tender to the touch, and which are invariably accompanied by constant pain, more or less severe, though the wound itself may be small, red, and dry, or, on the contrary, covered with large red fungous granulations, or it may be even phagenedic in appearance. As a rule, there is but little suppuration in these cases. Moderate antiphlogistic remedies, coupled with anodynes, seem to be the most beneficial, such as the following pill, given twice a day for a time: Potassio-tartrate of antimony, one-sixth of a grain; powdered opium, one-third of a grain; mercury pill, two grains; confection of roses in sufficient quantity. But it must be remembered that even this small dose of mercury is capable of producing salivation. Attention is paid to the bowels, which should be frequently relieved by an ordinary rhubarb draught. Locally, the treatment adopted is emollient, as a warm poultice sprinkled with laudanum, and in a few days changed, if necessary, to a bread poultice saturated with a lotion composed of solution of diacetate of lead, five minims; tincture of opium, half a drachm; water, one ounce,—applied at the natural temperature.

Under the second head, or non-inflammatory class, he places those ulcers which are accompanied by little or no pain, which have but little effect on the general health, and which as a rule have large anæmic or œdematous unhealthy granulations, covered by a thin puriform secretion, possessing no pretensions to the character of laudable pus. They may be surrounded by elevated tallowy edges; and the wound may be shallow or deep, and coated with a greenish, unorganizable lymph. These Mr. Norton treats with a lotion of carbolic acid (five grains to the ounce); but lately he has tried largely the treatment by exclusion of air, and for that purpose has applied pieces of tissue-paper, steeped in Dr. Richardson's styptic colloid, and accurately fitted to the ulcer; or a solution of mastic in spirit, made into a paste, with trisnitrate of bismuth, and applied upon lint, kept in position by a strip of soap-plaster, care being taken first to wash and thoroughly dry the wound. Each application has its merits, but the latter produces no smarting of the surface; on the contrary, by means of the anodyne properties of the bismuth, it subdues any nervous irritability. If no secretion remain upon the wound at the time of the application, the lymph effused from the granulations tends to become organized, and the process of healing is promoted.

Under the third head, Mr. Norton arranges those ulcers due to a persistent local cause, as varicose veins, or necrosis, the treatment of which depends mainly upon the removal of the exciting agent. The former are always accompanied by an enlargement of the superficial veins of the extremity, which, by obstructing the return of the blood, lessen the supply of nutriment to the part, and thus not only prevent the healing of an existing ulcer, but render the rest of the integument peculiarly prone to ulceration. The object here being to compress the superficial veins and regulate the circulation, Mr. Norton encircles the limb by strips of soap-plaster for some distance above and below the wound, and afterwards applies a bandage from the foot to the thigh.

Mr. Norton considers that total rest is the most reliable remedy for

all ulcers, but it is without this valuable agent that the surgeons of the out-patient departments have to deal with the disease. As a rule also he finds internal medicines of but little avail, with the exception of purgatives and anodynes; and as regards local applications, prefers the milder remedies, as calamine ointment, or a weak solution of carbolic acid; the zinc and resin ointments, and the stronger lotions, being too stimulating, irritative, or drying.

If the ulcer be connected with syphilis, five grains of the iodide of potassium are given three times a day; and if, as is frequently the case, the ulcer be surrounded by an eczematous or a scaly eruption, a weak lotion of diacetate of lead and glycerine is applied, the latter keeping the epithelium in a moistened state, and so preventing the irritation which is produced by the dry scales.

University College Hospital.—Mr. Christopher Heath believes that an accurate diagnosis of each case of ulcerated leg is essential for its successful treatment, and that the haphazard plan of poulticing pursued by patients, and of applying the red nitric oxide of mercury ointment by chemists to every form of ulcer, is as absurd as it is common. Mr. Heath has long abandoned the use of ointments for lotions, but finds it worse than useless to prescribe lotions unless the patient is *shown* how to apply them properly on lint covered with oil-silk; if merely *told* how to do it, the lint is usually cut larger than the oil-silk, or the latter is put next the skin. The best practice is for the "dresser" to apply the dressing with water at the time, and the patient to use the lotion at the next dressing.

The commonest form of ulcer, particularly amongst married women, is the syphilitic. This fact is often not recognised, and ulcers are treated with ordinary stimulants for months unsuccessfully, which heal in a few days under yellow wash (one grain of bichloride of mercury in one ounce of lime-water), and iodide of potassium internally. The ulcer is usually multiple, very irregular, and the skin around has a peculiar "worm-eaten" appearance. The ulcers commonly extend up the leg to the knee, and there may be thickening of the tibia. There is a yellowish-white surface to the sores, and a thin discharge exudes in considerable quantity. The scars of former ulcers are often apparent, and a history of frequent abortions is sufficient confirmation of the diagnosis, without going into more minute particulars.

Ulceration about the foot is usually of this kind, and so also ulceration between the toes; and the only form these are liable to be confounded with, in Mr. Heath's experience, is that dependent upon scabies. Ulcer of the leg depending upon scabies is constantly confounded with ordinary ulceration, but requires specific treatment for its cure. The ulcers vary very much in size (this depending principally upon the time the disease has existed), and often have little to distinguish them from simple ulcer, unless attention is directed to the surrounding skin. Here evidence of scabies may be readily discovered, and probably also in other parts of the body; and nocturnal irritation will generally be found to exist. Mr. Heath never uses the sulphur ointment for any form of scabies; but here, as elsewhere, has had every reason to be satisfied with the sulphide of calcium lotion (sulphur and quicklime, of each one ounce, boiled in a pint of water), provided

the affected part is well washed with hot water, and the lotion applied whilst it is warm and moist, and then allowed to dry on. Two or three applications of this kind remove the scabies, and the ulcers then heal readily with water dressing.

The eczematous ulcer is very commonly met with, the disease depending usually upon varicose veins. As the eczema has existed for many months before it was scratched and irritated into ulceration, it will be necessary to administer arsenic internally for its cure; and water dressing, with careful bandaging, may be applied to the leg. In obstinate cases of the kind, Mr. Heath has found weak iodine lotion (one drachm of the tincture to eight ounces of water), and in the later stage zinc ointment, very serviceable.

The ordinary varicose ulcer heals readily with a lotion of nitrate of silver (two grains to an ounce), and constant bandaging; but there is a form of irritable varicose ulcer (usually of small size and near the ankle) which is very difficult to cure, and in the treatment of which opium internally, in the form of compound soap pill (five grains thrice daily), is very useful.

The indolent ulcer of long standing, with thickened margins and a callous surface, is not very common in Mr. Heath's practice; but when it occurs it is invariably and rapidly cured by strapping the ulcer, and the leg for a short distance above and below it. The strips of plaster should be dipped in *hot* water before they are applied, as they thus fit the part much better than if merely warmed; and no other dressing is to be put upon the ulcer itself. A bandage is applied over the plaster, which latter requires renewal twice a week.

Art. 241.—*An Account of a Case of Arabian Elephantiasis, successfully treated by Compression of the Femoral Artery, and the application of the Starched and Simple Bandage.**

By John Cockle, M.D., and John Daniel Hill, F.R.C.S.

(*British Medical Journal*, March 14.)

The patient, Henrietta C., aged forty-two, by occupation a governess, married but without issue, was a native of Calcutta. Her parents were respectively of Irish and Dutch extraction. She had formerly enjoyed tolerable health, with the exception of an ulceration of the *left* leg, which remained open seven years; shortly after her marriage the ulcer healed. In the year 1852 she came to England, and subsequently had an attack of pain and redness of the *right* inferior extremity, brought on, she thought, from cold. This attack was preceded by uneasiness about the groin, but the pain and redness commenced in the foot, extending upwards to the knee and groin. In a few days the entire extremity began to swell, and very severe constitutional disturbance ensued. The swelling never wholly subsided during her sojourn in

* Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society, February 25.

England. In the year 1854 she returned to India, and (the swelling increasing) cupping, the application of iodine, and bandaging were successively employed without any beneficial result. During the last fourteen years the limb had been gradually enlarging. Subsequently to her return to India, she had several attacks of ague and fever. On her admission into the Royal Free Hospital on August 16th, 1867, the general health was good; but locally, besides the enlargement of the limb, the veins were in places tortuous and dilated, and induration existed in the situation of the femoral vein and glands below Poupart's ligament. The girth of the calf was 24 inches. After about one week's rest in bed, and before the actual commencement of compression the measurement was 22½ inches. The femoral artery was compressed at Scarpa's triangle by means of the horse-shoe tourniquet (at first for a short time, and then permanently), but never to the extent of completely arresting the circulation through the artery. Simultaneously with compression, the limb was at first encased in a starched bandage; later, three simple rollers were used. The reduction of size of the limb, when the compression was permanent, proceeded nearly as rapidly as in cases in which the main trunk had been tied. On January 7th, it was nearly the size of its fellow. During the progress of the case, the tourniquet had to be removed twice; first, from tenderness and redness at the point of pressure, and secondly, from the occurrence of slight œdema of the foot and ankle.

ART. 242.—*On the Treatment of Enlarged Bursa over the Patella.*

By WILLIAM S. SAVORY, F.R.S.

(*St. Bartholomew's Hospital Reports*, vol. ii.; and *British and Foreign Med.-Chir. Review*, January, 1868.)

In this short communication Mr. Savory recommends a mode of treatment which he believes to be the most efficacious yet adopted—namely, to puncture the enlarged bursa with a lancet, to press out all the contents, and then to subject it to firm pressure by a pad of lint, strapping, and bandage, so that the walls of the cavity may be everywhere kept in contact, and the sac thus obliterated.

ART. 243.—*On the Prejudicial Effect of Inter-articular Pressure in Joint Disease, and the application of continuous Extension by Means of a Weight, as a remedy for this condition.*

By F. HOWARD MARSH.

(*St. Bartholomew's Hospital Reports*, vol. ii.; and *British and Foreign Med.-Chir. Review*, January, 1868.)

After pointing out the injurious effect of pressure of the surfaces of the bones in cases of diseased joint, Mr. Marsh dwells more especially

on the pressure caused by abnormal muscular action; and he shows by a simple experiment which he performed at the Hospital for Sick Children, that when this pressure is removed or lessened a proportionate relief of the severity of the symptoms is obtained. In the case of a child suffering from acute articular disease of the leg, and who was treated only by suspending a weight from the foot of the affected limb, Mr. Marsh found that when the weight was raised, and the muscles were thus allowed to contract on the joint, immediate pain was caused, but was removed on the replacement of the weight. The progress of joint disease being thus proved to be so much influenced by the pressure of the articular surfaces on one another and by muscular action, it follows that one of the great objects of treatment should be to keep the surfaces at all times free from contact and to control the muscles. Mr. Marsh then proceeds to examine the ordinary treatment of diseased joint by splints and bandages; but he argues that the application of the weight possesses all the advantages without the drawbacks of the other plans. The amount of weight which it is proper to apply must depend upon circumstances; but it may be stated generally, that for children between six and nine years old four pounds are appropriate. Mr. Marsh concludes his paper by giving the history of some cases successfully treated by the method which he recommends.

ART. 244.—*Two Cases of Acute Suppuration in the Knee-joint, in which Recovery, with free motion, ensued.*

By ROBERT B. CARTER.

(*London Hospital Reports*, vol. iii.; and *British and Foreign Med.-Chir. Review*, January, 1868.)

The first of these cases was that of a coal-miner who had received a severe blow upon the knee; the second was that of a young woman, in whom the inflammation of the knee-joint supervened upon child-bearing. In both cases the pus was removed by puncturing the joint, and in both the result was favourable, but the writer of the paper lays great stress upon the necessity of mechanical support, strapping, and bandaging in the treatment of such cases.

ART. 245.—*A Case of Burn over the Knee, opening into the Joint—Resection—Cure.*

By Professor VOLKMANN, of Halle.

(*Deutsche Klinik*, 43, 1867.)

The following case, presenting many points of interest both from its singularity and from the severity of the lesion, occurred at the end of the year 1866, in the surgical practice of Professor Volkmann.

Carl Grützmacher, twenty-six years of age, an engine-driver, was on

October 26th, 1866, thrown under his engine during an upset, and was, by a heavy iron box which had fallen on him, retained in a fixed position, whilst a stream of hot water about the size of a finger was directed with great force from a broken tube upon his right knee; to this stream the region between the outer margin of the patella and the external condyle of the femur was exposed. The man was confined in one position for about twenty minutes, during the whole of which time the boiling water continued to flow, and the hot stream was directed on the same part. The injured limb had been so squeezed that the man could not move it to the least extent after his extrication.

The result of this accident was an extensive burn of the right lower extremity, which commenced about four fingers' breadth below Poupart's ligament, and varying in intensity at several points, extended downwards to the middle of the leg. In addition, a burn of the size of the hand and extending through the whole thickness of the cutis, was found over the left thigh. Chalk and linseed oil were applied locally, and subsequently ice; opium was given internally.

When the eschars commenced to loosen, about four weeks after the accident, it was noticed for the first time that the knee-joint had been involved; a close examination of which point had been previously prevented by extensive swelling of the injured extremity, and by the great pain caused by moving it. The joint was now manifestly filled with pus, which on slight pressure flowed in great quantity from beneath the eschar by the side of the patella; there was very slight febrile disturbance and no great loss of appetite. The detachment of the tissues destroyed by the burn, which formed a large eschar over the knee, of the size of a man's hand, made very slow progress. It became more and more evident that at the place on which for twenty minutes a stream of hot water had been directed, the burn had extended to a great depth, and that even a portion of the osseous structures of the joint had been involved in and destroyed by the burn. Dead bone could be felt on the outer and front surfaces of the external condyle and on the outer margin of the patella by a probe introduced below the loosened slough.

At the end of the fifth week the whole of the eschar, so far as it included the soft tissues, was removed, and the interior of the same joint was then visibly exposed at the outer side of the patella by an orifice in the capsule of the size of half a florin, at the bottom of this orifice could be perceived the white and necrosed surface of the external condyle, and the similarly affected margin of the patella. The suppuration increased after this exposure of the joint, the patient commenced to fail in health, and could not endure the slightest movement of the injured limb. The intensity of the fever, however, remained slight.

On November 28th, 1866, when the patient was seen for the first time by Professor Volkmann, the orifice in the capsular ligament was very much contracted by prominent granulations, so that the pus was not readily discharged. The necrosis of the external condyle and patella could be felt by a finger passed through this orifice. During extension of the knee the limb could be adducted to such an extent that the opening into the joint gaped widely, and commencing destruction of the articular cartilages could be made out by digital examination. The external lateral ligament was completely destroyed, and necrosis was

very distinct at its insertion and in the parts around. About four fingers' breadth below Poupart's ligaments was the commencement of a single irregular and granulating wound which extended to the middle of the leg. The flexion surface of the limb remained unaffected by the burn. The thigh appeared much enlarged by a swelling which was caused chiefly by an enormous purulent sac evidently in connexion with the perforated bursa of the extensor tendon; this sac was seated below the quadriceps extensor muscle and reached about the middle of the thigh; a similar purulent collection, which however did not reach so high, was found in the popliteal region. As there was no very great febrile disturbance and the appetite was stated to be good, no severe operative proceeding was carried out at that period, and a large opening merely made to allow of the discharge of pus. On December 26th, as the condition of the patient had improved in no one particular, but, on the contrary, the suppuration had become more profuse and fresh purulent deposits had formed, the question of amputation or resection was obliged to be taken into serious consideration.

Prof. Volkmann thought that resection was indicated in this case, as the suppuration was manifestly kept up in great part by the mortified portions of the osseous structures of the joint, the spontaneous elimination of which would have taken many weeks for its completion; the patient in the meantime becoming exhausted. A preliminary excision was made under chloroform for the purpose of finding out the extent of the necrosis, and as it was discovered that scarcely more than the outer third of the patella was dead, and that the necrosis did not extend above the epiphysis of the femur, the joint was resected on December 11th, nearly eight weeks after the injury.

A slightly curved incision through the granulating wound was made transversely in front of the joint and below the patella. The saw was applied to the lower end of the femur at the exact boundary of the necrosis, and a piece of bone four centimetres in the vertical direction removed; the patella was also taken away. The upper surface of the tibia, which presented in some places shreds of softened and half-detached cartilage, and in others, particularly at its outer side, loose pieces of carious bone tissue, was removed to the extent of half a centimetre in thickness by means of the gouge; lastly, the inner surface of the capsular ligament was freed of a large mass of flabby granulation tissue, and the articular cavity was cleaned out as much as possible. After the tolerably free hæmorrhage had been arrested, the wound—although carried through the extensive granulating surface marking the defect of skin caused by the burn—was carefully closed by thread sutures, the limb being finally placed upon a flat tin splint supported by a box.

The necrosis of the external condyle extended as high as the upper margin of the excised piece of femur, which corresponded to the highest point reached by the superior border of the articular cartilage covering the lower end of the bone. In the median direction the disease extended to a point about one centimetre to the outer side of a vertical line bisecting the fossa patellaris. The necrosed portion consisted of a thick disc of bone, which was completely surrounded by a shallow line of demarcation. That part of the lower articular surface of the femur

which rests upon the head of the tibia in the extended position of the limb was destroyed by ulceration, the posterior part was merely thinned at its upper surface.

The patient went on uninterruptedly well after the operation. On April 23rd, 1867, the wound made by the burn and that by the operation had healed and cicatrized, with the exception of a superficial granulating surface of the size of half a florin, and a very small fistulous opening. The patient became very fat after the arrest of the suppuration. In October, 1867, the limb was free from pain, and the joint firmly ankylosed. The patient could walk without a high boot or stick; although the resected limb was shortened to the full extent of an inch, locomotion was no more impeded than it is in cases of straight ankylosis of the knee, since the pelvis was depressed to a corresponding extent. The wound from the burn was completely healed.

Art. 246.—*On Loose Cartilages in the Knee-joint.*

By John Hilton, F.R.S., Surgeon to Guy's Hospital.

(*Guy's Hospital Reports*, Third Series, vol. xiii.; and *British and Foreign Med.-Chir. Review*, April, 1868.)

Of loose cartilages Mr. Hilton recognises three kinds: decolorized blood-clots, portions of bone and cartilage broken off, and pedunculate tumours whose pedicles have been severed. The case Mr. Hilton selected for description in one of his clinical lectures, was complicated with fracture of the tibia, and was characterized by the great size of the tumour in the knee, and the absence of pain on moving the joint. His remarks as to the mode of cure to be adopted in such cases are, however, of much importance. He deprecates cutting into the joint as an extremely dangerous operation, and advises fixation by means of a backsplint. He further says, that by the judicious exercise of pressure, the loose body may be made to adhere to the *synovial membrane*, and ultimately become absorbed—a practical remark of the greatest importance. An allied subject, floating bodies in the thecæ of tendons, is next discussed, and in this case also Mr. Hilton is opposed to a cutting operation if it can by any means be avoided, such being too frequently followed by suppuration and sloughing of the tendon. He also raises a warning voice against interfering with certain bursæ which communicate with joints. Remarks are also made on the treatment of an ulcer remaining after a Chopart's amputation of the foot, and on the treatment of painful ulcers by cutting the nerve filaments directed to them; the hyperæsthetic parts may be marked with caustic, and the nerves divided below the surface of the wound by means of a fine knife. The fifth lecture commences with an account of a case of compound fracture of the thigh, complicated with tetanus. Although valuable for teaching purposes, we need not enter into details with regard to it, but will content ourselves with repeating the doctrine cited by Mr. Hilton, that if under such circumstances the patient can breathe and swallow well, he will probably recover. The case of a man

who suffered from injury over the knee-joint is also given, it ended in ankylosis of the joint. We need hardly say that both student and practitioner will benefit by the perusal of these lectures.

Art. 247.—*On the results of Excision of the Knee at King's College Hospital during the year* 1867.

By Henry Smith, F.R.C.S., Assistant-Surgeon to the Hospital.

(*Medical Times and Gazette*, February 8.)

In this paper Mr. Smith furnishes a plain unvarnished report of the experience of the surgeons of King's College Hospital of excision of the knee-joint during the last twelve months. He thinks the result of this experience teaches us in the first place that the mortality attending this operation is not so great as it is generally supposed to be. Two fatal cases out of the fourteen operations performed in the year is as slight a mortality as can reasonably be expected after any severe surgical proceeding. Next to this slight mortality, these cases teach us how very slight is the shock of the operation. In most of the cases there was scarcely any, and in the two or three where the shock was noticeable there had been ample cause for it, either in excessive bleeding or in a very difficult and prolonged operation. These cases also teach us another fact, about which there has been much misapprehension—viz., the absence of great exhaustion and depressing effect on the constitutional powers by the long-continued discharges which occur from the wounds during the after-treatment. Now, in several of these cases the wounds healed in a great degree by the first intention, and in others where no such result could take place the patients did not seem to feel the depressing effect of the open wounds.

There is one important point to which Mr. Smith calls attention—that out of the whole fourteen cases there was not a single instance in which the operation was performed for a deformed condition of the knee alone; in every instance there was either extensive disease alone, or a deformed and useless limb combined with more or less disease within the joint.

Art. 248.—*Abstract of a Clinical Lecture on Resection of the Knee-joint delivered at Sir Patrick Dun's Hospital.*

By R. G. H. Butcher, M.D. Dubl., M.R.C.S. Eng., F.R.C.S.I., University Lecturer in Practical and Operative Surgery in the Hospital.

(*British Medical Journal*, April 25.)

In this lecture Dr. Butcher laid down the following rules, derived from strict investigation, of the practical management of his own cases:—

"1. *The Judicious Selection of the Case.*—The bones not being diseased far beyond their articular surfaces, which if upon section found to be a little more than had been expected, the part should be gouged out, or an additional thin slice removed; but if to a greater extent, amputation should be at once resorted to, and, as recorded in my work on Operative Surgery, with a hope of excellent success. Again, amputation, as I have shown, may be performed some days after excision, should any unfortunate circumstance in the management of the case demand it. I have recorded seven instances of amputation of the thigh, and all made rapid recovery save one.

"2. *The* H*-Incision should be preferred:* and the perpendicular strokes placed well back, so as to allow all fluids and discharges to drain off; far more effective and safer than any opening made in the popliteal space. No portion of the flaps should be curtailed, though they may be thinned of any thickened fibrinous matter or diseased synovial membrane; the latter particularly should be clipped away with a strong scissors. All ligamentous fibres, both around and within the joint, should be cut through, and the extremities of the bones fairly freed and exposed, great caution being taken not to break up the anterior wall of the popliteal space.

"3. *The Patella should be taken away in all cases whether diseased or not,* and then the section of the bones, well thrust out in front, should be made with 'Butcher's saw' from behind forwards, due attention being paid to the axis of the thigh bone at the time of its division.

"4. *All bleeding vessels should be tied, or any that have sprung and retracted, should be drawn out and secured,* so as to guard against intermediary hæmorrhage.

"5. *While the patient is yet on the operating table, the limb should be placed in the horizontal position, either by gentle and steady traction, combined with pressure of the cut surfaces of the bones backwards, or, if necessary, the division of the hamstring tendons.* Their support behind, in every case, I look upon as of great value, therefore their section must be looked upon as a last expedient towards straightening the limb.

"6. *During the adjustment of the bones, great caution should be exercised that their surfaces be throughout their extent in contact, and that no soft parts intervene.*—The flaps should be then laid down and connected by suture closely throughout their transverse division, while the lateral incisions should be brought together only at their extremities by one or two points, and the central portion of each—that corresponding to the division of the bones—should not be brought into contact, but dressed lightly with lint soaked in oil, thus securing a ready outlet for the escape of fluids. The extremity should next be cautiously laid upon 'Butcher's boxsplint,' padded to the natural configuration of the limb, its sides elevated, foot-board applied, suitable pads introduced, and then the anterior splint laid on, taking the place of the assistant's hand, which from the first restrained the femur from projecting forward; then the straps buckled, the waistband applied, and the patient may with safety be removed to his bed. The bed should be prepared in this way, and consist of a couple of hair mattresses, laid one upon the

other, evenly supported, and intervening between the upper one and the sheet, a folded blanket, with feather pillows for supporting the head and shoulders; the bed should be likewise moderately warmed, so as to prevent the patient from being chilled when put into it.

"7. *The limb should not be disturbed for several days*, the length of time depending a good deal on the season of the year when the operation is performed, whether it be in the heat of summer or the cold of winter. After five or six days it may be necessary to let down the sides of the box-splint, to remove discharge, change lateral pads, and soiled dressings, &c. By the apparatus named, the facilities for cleansing the limb are so efficient that it may not be requisite to lift the member from its support for even so long a period as six weeks, as evidenced in my own practice. Should, however, it be considered expedient to change all the dressings, the anterior splint should be steadily held back by assistants, and the limb pressed up to it, thus guarding against any starting of the femur forwards or displacement laterally when lifted from its bed. When the box is prepared and freshly arranged, the limb, controlled after the manner mentioned, should be laid down, the side-splints elevated, foot-board secured, and the straps over the anterior splint first tightened, so as to maintain it in that position, from which it was never suffered to change. I would impress the advice still further; if the straps be loosed for any purpose, *the hand of an assistant should steadily keep the anterior splint in its position*, and well pressed back, until the artificial support is again brought to bear upon it and fastened.

"8. *In cases where large abscesses form in the vicinity of the excised joint, or up along the thigh, Chassaignac's drainage-tubes may be used with the best hopes of success.*

"9. *The free administration of stimulants and sedatives is imperatively demanded in all cases of excision*, regulated to a certain extent by age, sex, temperament, and habits."

Art. 249.—*On the Treatment of Carious Affections of the Hip-joint.*

By Dr. Salzer.

(*Allgemeine Wiener Medizinische Zeitung*, No. 44, 1867; and *British Medical Journal*, February 22.)

In a paper on Resection of the hip-joint, Dr. Salzer discusses the different indications for the operation; and offers the following remarks on the question concerning the likely course to be taken by carious disease of the hip when resection is not performed, and the surgeon confines himself to the expectant method of treatment. In order to answer this question with precision, two classes of cases must be distinguished. To the first belong those cases of hip-joint disease which occur in the families of those who are in good circumstances, and able to confer the most careful treatment and attention which this disease more than any other joint-affection, requires. Not only should

the general health be supported and preserved, but great attention must be paid to the position of the limb, so that the cure of the disease may not result in excessive deformity. In this class of patients, who have every medicinal and dietetic means at their command, the prognosis is not generally an unfavourable one; and in a great number of cases, the surgeon has succeeded not only in saving the life of the patient, but also in bringing about a cure of the local disease without very great deformity and impaired function of the extremity. Very different is the course of the disease in those patients who belong to the poor classes, and who can procure neither careful treatment nor appropriate dietetic means. These patients either take refuge in the hospital, or remain at home unattended and deprived of support. The majority of these cases sink from profuse suppuration, from colliquative fever and exhaustion; and when by chance a cure takes place, it is always associated with great deformity and impairment of the limb. Dr. Salzer has collected and tabulated all the recorded cases of resection of the hip-joint performed since 1861. Of these cases, 109 in number, 71 resulted in cure and 36 in death. In two cases, the results were uncertain.

PART III.—MIDWIFERY.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

(A) CONCERNING PREGNANCY AND PARTURITION.

ART. 250.—*Rigid Perineum.*

By G. HURT, M.D., St. Louis.

(Communicated for the *St. Louis Medical Reporter*, and *Canada Medical Journal*, March.)

THE author of this paper states that in cases of rigid perineum the accoucheur may render valuable assistance by passing two fingers of either hand (as the position of the patient may require) into the bowel, and with their palmar surfaces supporting the posterior wall of the vagina, and by a gentle and steady upward pressure direct the fœtal head towards the vulva; while at the same time the thumb is pressed against the perineum so as to check further distension, and at the same time to depress it so as to bring the vulva more fairly within the axis of the distending force.

The important indication in these cases is to bring the expanding force of the fœtal head in position with the vulva, so as to act with energy upon the constrictor muscles of the vagina, which is to be accomplished by elevating the head and depressing the perineum.

ART. 251.—*Puerperal Temperatures.*

By WILLIAM SQUIRE, L.R.C.P. Lond.

(*Obstetrical Transactions*, vol. ix.)

The general conclusions deducible from the observations contained in this paper are :—

1st. That no great elevation of temperature arises in natural labour.

2nd. That there is afterwards a considerable fall of temperature, which is favoured by sleep.

3rd. That there is a subsequent exaltation of temperature, which has for its natural termination the secretion of milk.

Art. 252.—*Extra-Uterine Pregnancy.*

By Dr. Bernhard Sigmund Schultze, Professor of Midwifery, Director of the Maternity and School for Midwives at Jena.

(*British and Foreign Med.-Chir. Review*, October, 1867.)

D. K., æt. thirty-seven, was admitted to the hospital by Professor Schultze, December, 1862, with symptoms of sub-acute peritonitis. She said that she was about thirty weeks pregnant, and had suffered abdominal pain since the first seven weeks, with dysuria and painful defecation. She had felt the movements of the child a few days before admission. The abdomen contained a central tumour like a uterus of twenty-eight to thirty weeks' pregnancy. On vaginal examination, the finger passed two and a half inches into the uterus, and then met with firm elastic resistance. By combined external and internal palpation a fœtus was distinctly made out, a portion of the tumour being resonant. Extra-uterine pregnancy was diagnosed.

January.—Œdema of the lower extremities and vulva appeared.

February.—The abnormal tumour had diminished in size, lay more to the left side, was harder, and more fixed. An abscess began to form in the abdominal wall, which burst in March, discharging matter with a fecal smell. A probe passed through this opening came upon bone, as also did a sound passed per uterum. The bladder was in a normal condition.

In April some fœtal bones passed with the urine, and a fistula was found in the posterior wall. Bone, blood, and muco-pus continued to pass per urethram till it became blocked by a cranial bone.

May 12th.—Patient being under chloroform, the abdominal fistula was enlarged to admit two fingers, and through this the most part of the bones of a fœtus was removed with forceps: but the occipital and parietal bones were too firmly adherent to the cyst-wall to be dragged away safely; they were, however, taken away on May 21st.

May 31st.—A number of small bones passed by stool.

June.—Symptoms of uræmia with inflammation, first of the right and then of the left kidney, supervened. The patient, however, struggled through, and became convalescent.

August 10th.—The catamenia appeared. A year later the patient was in perfect health. On examination, the uterine cavity measured two and a half inches straight, but two and three quarters to the left "cornu." On the right side an ovary was felt behind the uterus in the Douglas' space. At the left cornu of the uterus the left ovary, double its natural size, was recognised. The bladder was healthy. Schultze suggests that the death of the fœtus was due to perforation of the rectum, the communication being shown by the fecal smell of the abscess matter.

The case is remarkable as an instance of perforation of bladder, rectum, and abdomen, with closure of the fistulæ and restoration to health.

As to the propriety of operation in such cases, and the period for

operation, it is impossible to lay down any rule. The great tolerance that the abdomen has of such a body is a strong argument for temporizing. The result in the present case is perhaps the best proof of the wisdom of the proceedings.

Art. 253.—*On Expression of the Fœtus.*

By Dr. Kristeller.

(*Monatsschr. f. Geburtsk.*, May, 1867 ; and *British and Foreign Med.-Chir. Review*, October, 1867.)

Dr. Kristeller, quoting a paper by V. Ritgen on "Delivery by Pressure instead of by Extraction," advocates the use of this method in certain cases of inaction of the uterus. He says it has the advantage over extraction of not requiring the premature rupture of the membranes, of not disturbing the flexion of the fœtal-chin upon breast, or limbs upon trunk, or of bringing the uterus into correct relation with the axis of the pelvic brim. It is executed by placing the patient on her back, the operator spreading his hands upon the uterus, so that the palms shall be able to compress the fundus downwards, whilst the thumbs and fingers shall compress the uterus on the sides. The pressure is made to resemble the course of a natural contraction in its progress and periodicity. It may require to be repeated fifteen or twenty times. If more than this is necessary, the case is unfit for the operation. Expression, or "squeezing out," of course will often excite uterine action, which will help the operator. Expression is also most useful in aid of extraction, as, when the forceps is used, Kristeller relates cases in proof of the value of his method.

Art. 254.—*Antero-posterior Contraction of the Brim of the Pelvis; induction of Premature Labour by Dr. Barnes's Dilator; Forceps; Child born with heart Pulsating very feebly; attempt at Resuscitation ineffectual.*

Under the care of Dr. Lloyd Roberts.

Bridget S., aged thirty-three, was admitted into St. Mary's Hospital, Manchester, December 17th, 1867, supposing herself about seven months advanced in pregnancy. The induction of premature labour was commenced at 9 A.M. of December 26th, by the introduction of the vaginal dilator of Dr. Barnes, which was allowed to remain in the vagina several hours. In the evening the os uteri was found sufficiently open to introduce the cervical dilator, which was done. Brisk pains supervened, and continued during the night. At 10 o'clock on the following morning the os uteri was more than half dilated, and about this time the membranes ruptured spontaneously. The fœtal heart was almost inaudible, the pains, though very strong, were ineffectual in propelling the head. As the latter did

not pass the brim, and seemed very disproportionate to the pelvis in size, and also more firmly ossified than it ought to have been from the computation of the patient, it was decided to apply the forceps. Firm and long-continued traction was necessary to complete the delivery, which took place about 12 o'clock at noon—the fœtal heart still beating, but faintly. All efforts at resuscitation failed. Judging from the difficulty in extracting the child, and from its advanced development, it had the appearance of a fœtus of eight months, and the woman afterwards admitted that she was mistaken in her reckoning. A similar miscalculation had been made in her last labour, and the child in that instance was born dead. In the confinement preceding that, labour was induced a few days over the seventh month, as was supposed, and the child was born alive. Although very small at the time of birth, it is now a fine girl. Recovery progressed favourably, and she sat up for the first time on January 5th.

Art. 255.—*Rupture of the Central Tendon of the Perineum during Labour.*

By M. Depaul.

(*L'Union Médicale*, No. 37, 1868.)

The report of the following case was communicated to the Société Impériale de Chirurgie:—

The patient was twenty-six years of age, and a primipara. In the course of December, 1867, she presented herself at M. Depaul's clinique for delivery. Nothing special attracted attention. The examination, made with care at the commencement of labour, showed a presentation of the head in the left anterior sacro-iliac position, the first position of classical authors. The labour did not last long. When dilatation was complete, the head projecting more and more, gradually came down upon the floor of the perineum. It was then remarked that the perineum, during contraction, instead of offering resistance, permitted itself, in consequence of its extreme suppleness, to become depressed with great facility, and to be separated from the osseous wall of the pelvis. The head, instead of distending it transversely, pushed it directly forwards, and met with no resistance. Very soon the head was completely surrounded by the perineum, which was so much distended that it measured from the anus to its anterior commissure, no less than $17\frac{1}{2}$ centimetres. Then, during another pain, a laceration of the integument was produced in the middle of the perineum. This rent increased rapidly in size. The head passed into it, and with the rest of the body was forced through; the labour was then concluded.

The wound thus produced extended from the vulva to the anus, and did not involve the commissures which bound the perineum in front and behind. It presented the form of a vertical slit, larger in the centre than at the extremities, and with irregular, denticulated, and contused borders.

This wound cicatrized spontaneously and rapidly without artificial

intervention. At the end of five weeks, owing to certain precautions on the part of the patient, to lotions and injections, there remained merely a small hole, capable of receiving the extremity of a small quill. The patient then passed from under M. Depaul's notice, and no doubt completely recovered.

M. Depaul derives some interesting points from this case. In the first place, it proves the reality of those central ruptures of the perineum which had been denied by Capuron and other accoucheurs. Although the lesion is a rare one, still science already possesses a fair number of reported cases.

These ruptures may be produced under very different conditions. In the present case none of those causes were present to which the injury has been attributed by accoucheurs. The presentation was a head one in the first position; there was no faulty conformation of the pelvis, the angles and passages of which were normal. The woman was in her first labour; the child was of the ordinary size, and weighed 3050 grammes.

The sole cause to which the accident in this case can be attributed is the abnormal length, suppleness, and softness of the perineum. It is noticed by those who are present at the production of affections of this kind, that the laceration commences sometimes in the skin, and at others in the mucous membrane. The rent may implicate the skin alone, the mucous membrane alone, or the mucous membrane and skin together. The most frequent cases are those of incomplete laceration. In some cases of complete laceration the child passes through the perforation; in other cases, much more frequent, it does not pass. In all cases the cure is effected spontaneously, and there is no necessity for using sutures.

Art. 256.—*Induction of Labour—Placenta Prævia—Spontaneous Version.*

By Willliam Elliott Porter, M.R.C.S.

(*Medical Times and Gazette*, February 15.)

In Dr. Barnes's lecture in the *Medical Times and Gazette* of December 21, he speaks of the spontaneous evolution of the child. The accompanying case, of which the following are the notes, is, Mr. Porter thinks, corroborative of his statements:—

"Mrs. C., age thirty-six. Fifth child; two alive. On December 17, 1867, I induced labour, about the thirty-second week, for the second time in this patient, by means of Barnes's hydrostatic dilators. The first bag was introduced about 12 noon. Pains were fully established by 1 P.M. The third-sized bag was expelled at about 3 P.M. The pains were then regular and strong, every ten minutes or thereabouts. A pouch of amnion presented, the head descending with each pain; it was within easy reach, and the sutures were distinctly felt. I left the patient for an hour and a quarter. On returning, I found the pains more frequent and stronger. A large bag of amnion was now in the vagina; os very high and fairly dilated. The head was now gone, and a hand pre-

senting. An inch or more of placenta was felt over the os; but there was no hæmorrhage externally. On placing my hand on the abdomen, I discovered the head of the child occupying the left hypochondrium. The examination produced a severe pain, and the membranes ruptured. A large quantity of liquor amnii was discharged deeply tinged with blood; there were also many clots. Only the hand of the child was within reach. I placed the patient under the influence of chloroform as quickly as possible, and proceeded to turn.

"On commencing to introduce the hand, an immense gush of blood and clots took place. I have often heard the expression 'like water from a pump,' but never experienced it before.

"With difficulty I found a foot, the child being nearly transverse, breech a little dependent, head as before stated. Delivery was completed with no great difficulty; during the process, the child struggled twice. After delivery it gave one incomplete gasp, and the heart beat vigorously for many minutes; but all my efforts, though I continued them for, I should think, nearly an hour, failed to establish respiration. The placenta came away without further hæmorrhage, and the recovery of the patient was unchecked.

"In addition to this case being corroborative of Dr. Barnes's remarks, it is worthy of note that there was no external hæmorrhage prior to the evacuation of the liquor amnii."

Art. 257.—*The Treatment of Early Abortion.*

By John A. Byrne, M.D.

(*Dublin Quarterly Journal of Medical Sciences*, November, 1867; and *Brit. and For. Med.-Chir. Review*, January, 1868.)

Dr. Byrne cites the doctrines of various authors on the questions of using instruments to remove the remains of the ovum, or the fingers or plugging. He is in favour of plugging first, then of removing the placenta by one or two fingers. He thinks the only case warranting the use of an instrument is that of the ovum lying loose in the uterus.

Art. 258.—*On Extra-Uterine Fœtation and Gestation.*

By Stephen Rogers, M.D., of New York.

(*Transactions of the American Medical Association*, vol. xviii.)

The author believes that in almost all cases of extra-uterine pregnancy, there is nearly a constant symptom present, whose importance has not hitherto been recognised by writers upon the subject, and which he values as "almost pathognomic;" namely: "periodic, and more or less severe spasms of pain, usually described as colic, and referred to the hypogastric region, generally to the one or other side of the belly. If these colicky attacks be accompanied by sanguinolent and by occasional clotty discharges from the uterus, they are almost

certainly indicative of extra-uterine pregnancy," (p. 92.) He thinks that in a very large majority of cases, the existence of this condition "may not only be suspected, but nearly positively determined, before the bleeding commences, (p. 101.) There being no hope of spontaneous recovery, the course of treatment to be adopted is considered, and the question of intervention discussed. Dr. Rogers is an advocate of early gastrotomy, and he grounds his hopes of saving the life of the woman by it: 1. That it is an operation simple and attended with less risk than "many recognised and frequently performed operations involving the peritoneum and its cavity" (p. 124), when done before the third month, as there can be at this time no, or only slight, adhesions of the cyst. 2. That the peritoneum being healthy, the chances of subsequent serious inflammation are slight. 3. That compared with herniotomy, tying the subclavian artery, and amputation of the thigh and hip-joint, there is "but little danger of doing harm; that there is a better prognosis for it than for ovariotomy, and that it is a hopelessly fatal condition without it."

ART. 259.—*Hæmorrhage following Abortion, treated by Injections of Persulphate of Iron into the Cavity of the Uterus.*

By C. M. FORD, M.D.

(*American Journal of Medical Sciences*, April, 1868.)

The following case was related to the Clinico-Pathological Society of Washington:—

"Mrs. F. Jaish, aged 28, plethoric habit; had a miscarriage at three months on the night of March 23rd. Saw her for the first time the next morning, when the following symptoms were presented: face pale; pulse 120 and weak; tongue very pale; extremities cold; complains of severe pain in the back; no urine passed for twenty-four hours; bowels had been opened during the night. Digital examination discovered the vagina to be filled with coagula; os uteri dilated sufficiently to admit index finger; placenta found still adherent to uterine walls, but could not be detached. The flooding which still continued, had commenced twenty-four hours previously, and had now reduced the patient to a dangerous condition of debility. Drachm doses of tincture of ergot were administered, and cold applications made locally. This failing to control the hæmorrhage, the tampon was applied and stimulants ordered; at three o'clock p.m. the flooding was still considerable, notwithstanding the presence of the tampon; this latter was therefore removed, and the os uteri being found more dilated, the hand was introduced and the most of the placenta removed—a small portion only, which could not be reached, remaining in the fundus. The pulse was now hardly perceptible. Ordered brandy and laudanum freely. The hæmorrhage again commencing, a solution of one drachm of persulphate of iron to four ounces of water was injected into the uterus through the

long leaden tube belonging to Siemann's universal syringe. The hæmorrhage was immediately arrested and did not again return. The remaining portion of the placenta came away without difficulty on the 27th, and convalescence was generally established.

Since reporting the above case, Dr. Ford has treated three cases of uterine hæmorrhage with astringent injections. In two instances the flooding followed abortion; in the third, the trouble was menorrhagia. Solution of tincture of the perchloride of iron ʒj to ʒiij of water, was employed instead of solution of persulphate, and in each case with the same encouraging results.

Art. 260.—*Report of a Case of Suppression of Urine complicating Pregnancy.*

By Dr. Hill.

(*Dublin Quarterly Journal of Medical Science*, May.)

At a meeting of the Ulster Medical Society, held March 20th, 1868, Dr. Hill read a paper "On a Case of Suppression of Urine complicating Pregnancy," of which the following is an abstract:—

M. B., aged thirty-five years, mother of six healthy children, had a severe attack of some chest affection, from which she never regained her former strength. Shortly afterwards she became pregnant, and when about four months gone she experienced pain in making water, at the same time passing very little. The symptoms gradually increased in urgency, notwithstanding various methods of treatment, till the pain prevented her from sleeping, and she did not pass more than three ounces of urine in the twenty-four hours, which, however, latterly became highly concentrated. She did not complain of cough, though otherwise she presented a phthisical aspect. At seven months, labour occurred, with complete relief to her urgent symptoms, but immediately phthisis became developed, and she sank twelve days after delivery. The case was adduced as one showing the remarkable power which pregnancy possesses of keeping the symptoms of phthisis in abeyance. No explanation of the pain could be offered, but Dr. Smith, who had seen the case in consultation, suggested that it might have been caused by the irritation of the bladder by the concentrated urine.

Art. 261.—*On Face Labour.*

By Prof. F. Winckel, of Rostock.

(*Monatsschrift f. Geburtskunde*, xxx. i., 1867; *Schmidt's Jahrbücher*, No. 1, 1868.)

Our knowledge of matters relating to the ætiological conditions of presentations of the face is, notwithstanding the various theories set up on this subject, still imperfect. This is due in great part to the deficiency of materials. Professor Winckel has collected observations

on 379 cases, a far greater number than any of his predecessors; the result of his investigations contains the following propositions, which are to be considered as forming a preliminary contribution to a larger work to be published at a later date:—

1. Face births take place with equal frequency in primiparæ and multiparæ. 2. One-third of the primiparæ had already exceeded the age of twenty-six years. 3. Face presentations seldom take place at every labour of the same woman; they often occur, however, in 10 per cent. of cases more than once in one woman. 4. Multiparæ with face presentations have frequently had at previous labours an abnormal presentation of the child; the previous births in multiparæ, with face presentations, were normal in scarcely 31 per cent. of the cases, and artificial aid had been frequently required. 5. In face presentations pelvic contraction is more frequent than otherwise; 1 case of contracted pelvis occurs to every 4 or 5 cases, whilst the highest proportion of cases of this condition when observed in all labours is 11 per cent. 6. Face presentation occurs with greater frequency in multiparæ, with pelvic contraction of the second and third degrees, than in primiparæ with a narrow pelvis. 7. The first presentation of the face—the chin on the right side bears the proportion to the second presentation of the face—the chin on the left side, of 7 cases to 5; as the second presentation of the head is much less frequent than the first, the second presentation of the face is consequently oftener evolved from the second presentation of the head, than the first face presentation is from the first position of the head. 8. The course of the labour has very frequently a longer duration in face than in head presentations; the former cannot, therefore, be reckoned among the easy deliveries. 9. Face presentations require artificial assistance much more frequently than presentations of the head. 10. Change in the position of the head during birth, occurs in 15 per cent. of cases of face presentation. 11. Children born by face-presentation are in most instances heavier than usual. 12. The children are born dead much more frequently (from 13 to 14 per cent.) than still birth occurs in all cases of delivery (5 per cent.). 13. With face presentation there are sometimes very close and repeated entwinings of the umbilical cord, which act as a cause of death. 14. Prolapse of the cord with face labours, occurs in a proportion of 1 to 45, consequently 2·25 per cent.; whilst with all other labours the highest proportion that has been experienced is 1 per cent. 15. In face presentations there is frequently a premature discharge of the waters, 1 case in 6·5: an usual amount of liquor amnii was found in isolated cases. 16. Freund's assertion, that face presentations occur less frequently in northern than in southern regions, is not correct: their average frequency is about 1 to 150 births. 17. Face presentations are perhaps never due to one cause alone, but almost always to the combined action of two or three causes acting simultaneously; the most frequent complication of such causes is a contracted pelvis, a large child, and little liquor amnii. Pendulous abdomen together with contracted pelvis is also frequent.

In the estimation of the influence of an obliquely contracted pelvis, Professor Winckel relates the case of a woman in whose labour the back of the head was placed in the wide part of the pelvis. This first

labour had a normal course; in the second labour, however, the back of the head stood at the outlet of the pelvis in its contracted half. A face-presentation was produced under Professor Winckel's eyes, and the birth was not completed without great difficulty.

Art. 262.—*On Labour with Contracted Pelvis.*

By Dr. L. Pfeiffer,

Thesis for the degree of Doctor at the Faculty of Medicine at Jena.)

Dr. Pfeiffer writes the thesis for his degree on the equally contracted pelvis (æquabiliter justo minor). He takes as his standard Litzmann's gauge 3″ 6‴ internal conjugate diameter. Litzmann found the percentage of these pelves 14·9; Michaelis 13·1. The contraction of the pelvis Dr. Pfeiffer regards as a frequent cause of limb and funis presentations, as the head does not fill the pelvis properly. The teaching at Jena agrees with our own as to the danger to the mother from long-continued pressure, and the advisability of early assistance. If the conjugate diameter is not less than 2″ 9‴ the forceps should always be first applied; if less, then craniotomy or Cæsarian section. Turning instead has not, in the experience of the hospital, saved the child's life. If the child be dead, cephalotripsy is far more favourable for the mother than extraction with the forceps.

Premature labour should not be induced before the twenty-ninth week, and in slight cases of contraction the thirty-second to the thirty-fifth week is preferable.

The modes mentioned are—the uterine douche of Kiwisch; the tampon and Cohen's method with the catheter. No notice is taken of the plans for dilating the cervix either by a pessary or air bag.

Art. 263.—*On the Condition of the Uterus in Obstructed Labour.*

By J. Braxton Hicks, M.D., F.R.S.

(*Obstetrical Transactions*, vol. ix.)

The following is a *résumé* of the principal points desired to be established in this paper:—

1. That it is very rare to find symptoms of "powerless labour" (Churchill) where the uterus is relaxed.

2. That where serious symptoms have begun, and at the same time the pains have apparently ceased, it will almost invariably be found that the uterus is in a state of continuous action.

3. That the continuous action is the cause of the symptoms of "powerless labour."

4. That the time at which these symptoms arise, varies considerably, according to the peculiarity of the patient, the violence of the action, and the position and presentation of the child.

5. That if this constant contraction be fully established, it is better to deliver the child artificially, unless we first try the effect of chloroform.

6. That the effect of the continuous action is exhausting to the mother, and liable to be fatal to the child.

7. That the use of secale is contra-indicated in such cases.

8. Where the uterus is lax we can generally wait a considerable time without danger to the patient or to the child. When the uterus has been allowed time to recover its nerve force, then it is advisable to give some oxytoxic, as secale, &c. If this fail, we may then draw down the head to the vulva slowly and cautiously, which will probably induce uterine action. The removal of the child must be done cautiously, and only as we find the uterus to respond.

Art. 264.—*Cases illustrative of the Use of the Forceps.*

By A. B. Steele, Lecturer on Midwifery at the Liverpool Royal Infirmary School of Medicine.

(*Dublin Quarterly Journal*, May.)

In this paper, Dr. Steele urges the early use of the forceps "in those cases in which labour has been inordinately prolonged, or in which there is reason to believe that it will prove tedious, although none of the symptoms may have yet appeared which have been held to be essential indications for instrumental interference.

Dr. Steele recommends a forceps having a pelvic as well as a cranial curve.

Art. 265.—*Inversion of the Uterus.*

By Charles Robert Thompson, Westerham.

(*British Medical Journal*, May 16.)

The following case is recorded by Mr. Thompson :—

"Mrs. H., aged thirty-five, was in her fourth labour at full term. The presentation was cranial; the labour quite natural, but rather lingering. The child was expelled at 2.30 P.M. After ten minutes, I rubbed the uterus gently above the pubes, and felt it contract. The insertion of the cord was easily reached *per vaginam*, and the placenta was removed without difficulty. There was no hæmorrhage. Twenty minutes later, I left her perfectly comfortable, with quiet firm pulse, and no hæmorrhage. At 7 P.M., the husband came to get something for her, as she was suffering from 'hiccough and wind.' I sent her some sal volatile and laudanum. At 10 P.M., he came again to say she was very ill. I went to her directly, and found her with livid sunken face, cold sweat, no pulse at the wrist, throwing herself about, calling out that she was dying. On placing my hand above the pubes, no uterine tumour could be felt. *Per vaginam*, I found the uterus completely inverted—its lowest part, the upper and inner surface of the fundus, easily within

reach of the finger, but not close to the os externum. By passing the hand into the vagina, I could grasp the whole uterus. No hæmorrhage was going on now. I made one attempt to reduce it at once; but it was useless, from her resistance and cries. In an hour chloroform was obtained, and given to full insensibility; brandy and small doses of opium having been sedulously given in the interval. The uterus was firmly grasped by the hand in the vagina, and after about fifteen minutes' steady pressure, it was reduced. Through the night she was plied with stimulants, and had hot bottles applied to the feet and the pit of the stomach, &c. In three or four hours the danger was past, and she made a complete recovery."

Dr. Thompson made out that, when she was to be put into bed, about two hours after the child's birth, she incautiously stood upright, and walked a step or two. She complained of violent pain, and became faint, so that there was difficulty to get her undressed; and from that time the bad symptoms increased. Thus the uterus had probably been six hours inverted.

Art. 266.—*The Modes in which Nature deals with Shoulder-presentations, analogous to those in which she deals with Head-presentations.*

By Robert Barnes, M.D., F.R.C.P., Obstetric Physician and Lecturer on Midwifery at St. Thomas's Hospital.

(*Medical Times and Gazette*, January 11, 1868.)

We will now endeavour to trace with more precision the modes employed by nature in dealing with shoulder-presentation. The mechanism of labour with shoulder-presentation is strictly analogous to that of ordinary labour. It is therefore desirable to set before our minds the picture of an ordinary head-labour.

In the first head position, the occiput is directed to the left cotyloid foramen, the face looks to the right sacro-iliac joint, the vertex points downwards to the os uteri, whilst the long axis or trunk corresponds with the long axis of the uterus, which is coincident, or nearly so, with the axis of the pelvic brim. The head, in its progress to birth, undergoes five successive movements:—

1st. *A Movement of Flexion.*—The posterior fontanelle placed opposite the cotyloid cavity, descends and approaches the centre of the brim, the chin is strongly pressed upon the chest, the neck comes to bear upon the cotyloid wall, whilst the forehead rises on the right, and the anterior fontanelle is applied to the right sacro-iliac joint. By this movement the head fixes itself upon the trunk, and presents its smaller diameters to the greatest or oblique diameters of the pelvic brim.

2ndly. *A Movement of Descent or of Progression.*—This begins commonly with the escape of the head from the mouth of the uterus, the clearing of the brim, and ends with the total expulsion of the fœtus.

3rdly. *A Movement of Rotation.*—This takes place in the lower part of the pelvic cavity. The forehead and the anterior part of the region of the vertex resting on the right sacro-iliac ligament, or on the right

posterior wall of the pelvic cavity, follow the incline backwards and downwards, turning towards the sacral cavity, whilst the back of the neck slides behind the left foramen ovale, or the left anterior wall of the pelvis, and, following the incline forwards and a little upwards, turns towards the upper part of the pubic arch.

4thly. *A Movement in a Circle.*—The back of the neck is arrested under the symphysis pubis; the posterior fontanelle is nearly in the centre of the pelvic outlet; the occiput, the vertex, the forehead, the face, and lastly, the chin, roll successively over the posterior commissure of the vulva, traversing the concavity of the lower part of the sacrum and the distended perineum.

5thly. *A Movement of Restitution.*—As soon as the head is free from the pelvis, the occiput turns quickly to the left, and the face and forehead to the right. This last movement of the head is the effect of the first of a succession of movements similar to those described, which is now pursued by the trunk.

The shoulders entering the brim in the left oblique diameter, turn the head, now freed from all restraint, bringing the face forwards to the right.

The Movements undergone by the Trunk (a) are three.

1st. *A Movement of Descent or of continuous Progression.*—The right shoulder is forward to the right, the left is behind to the left; the child's back is directed forwards to the left.

2nd. *A Movement of Rotation.*—The shoulders and the upper part of the trunk having descended into the excavation, the right shoulder turns towards the apex of the pubic arch, and the left rotates towards the concavity of the sacrum. The child's back, after the rotation, is turned to the left.

3rd. *A Movement in a Circle.*—The right shoulder remaining fixed beneath the pubic arch, the left shoulder, followed by the corresponding side of the trunk and the left hip, describe the arc of a circle; and gradually the right shoulder rises over the mons Veneris, whilst the parts placed behind traverse the sacro-perineal concavity. These movements are governed by the form of the pelvis. Labour with shoulder-presentation must obey the same laws.

Shoulder-presentations may be *primitive* or *secondary*. The *primitive* exist before labour has set in, and are almost necessarily associated with obliquity of the uterus. The *secondary* are formed during the initiatory stage of labour, under conditions which lead to the deflection of the head from the pelvic brim when it is made to move under the influence of force applied to the breech or trunk.

In nature we observe two chief shoulder-positions, and each of these has two varieties. In the *first position*, the head lies in the left sacro-iliac hollow. In the *second position* the head lies in the right sacro-iliac-hollow. Now, in either position, either the right or the left shoulder may present. Thus, if the head is in the left ilium, the right shoulder will descend when the child's back is directed forwards; and the left shoulder will descend when the child's belly is directed forwards. In the case of the *second* or right cephalo-iliac position, the right shoulder will descend when the child's belly is turned forwards, and the left shoulder when the child's back is turned forwards.

Art. 267.—*On Labour in Shoulder-presentation.*

By Professor Lazzati.

(*Annali Universali di Medicina*, Milan, October, 1867; and *British and Foreign Med.-Chir. Review*, January, 1868.)

In an admirable memoir on shoulder-presentation, Lazzati illustrates the following propositions: That, wheresoever possible, attempt should be made to correct this presentation, *i.e.*, to restore the head, as rendering spontaneous delivery possible. That corrections may be attempted with prospect of success, either during the end of gestation or at the beginning of labour, by external compression or manipulations when the head of the fœtus is to be brought over the inferior segment of the uterus. That, in labour somewhat advanced, or when attempt at correction fails, it is better to bring down the nates, practising turning by the feet. That nature sometimes completes labour by the shoulder by herself, the modes being (*a*) spontaneous cephalic and podalic *version;* (*b*) spontaneous cephalic and podalic *evolution.* That spontaneous version by the feet is a true natural substitution of the pelvic region for that of the shoulder, brought about whilst the fœtus is still entirely in the uterine cavity, and above the brim of the pelvis. That spontaneous evolution is the true natural labour by the shoulder, which is accomplished, things being favourable, under the laws and mechanism governing the passage of all other parts through the pelvic canal. That as to spontaneous version we may substitute artificial version by the feet whilst the fœtus is free, so when the shoulder has descended deeply into the cavity, if spontaneous evolution cannot be effected, labour may be completed by artificial evolution. That artificial evolution is always fatal to the child, and somewhat dangerous to the mother.

Art. 268.—*Definition of Spontaneous Version and Spontaneous Evolution.*

By Robert Barnes, M.D., F.R.C.P.

(*Medical Times and Gazette*, January 25, 1868.)

"It is especially necessary, before we proceed, to define with precision the significance that attaches to the terms employed, the more especially that I find it desirable to use some terms in a different sense from that current in this country. Dr. Denman used the term 'spontaneous evolution' to express the natural action by which the pelvis or head was substituted for the originally presenting shoulder. The term 'spontaneous expulsion' has been applied to the process of unaided delivery described by Douglas, in which the child is driven through the pelvis doubled up. Neither of these terms is free from objection. The first essentially is inaccurate, and has given rise to much misapprehension. The process described by Denman is a true *version* or *turning*.

All German, French, Italian, and Dutch authors apply to this process the term 'spontaneous version'—'*versio spontanea.*' It might be called *natural version*, to distinguish it from artificial version effected by the hand of the obstetrician. All continental authors likewise call Douglas's process by the name 'spontaneous evolution,' the process being one of unfolding, as it were, of the doubled-up fœtus. It is of great consequence to bring our nomenclature into harmony with that of our brethren abroad, and it is of still greater consequence to bring our nomenclature into harmony with nature. It is clear therefore that the change in terms should be made by us. I shall use the terms 'version' and 'evolution' in the correct sense."

Art. 269.—*Mechanism of Spontaneous Evolution in the first Shoulder-presentation.*

By Robert Barnes, M.D., F.R.C.P.

(*Medical Times and Gazette*, February 8, 1868.)

"Spontaneous evolution from the first position proceeds as follows:—

At *first* we have the oblique position of the fœtus, the head being in one iliac fossa, the trunk and breech in the other. *Secondly*, strong flexion of the head upon the trunk, and descent of the shoulder into the pelvis. At this stage, commonly the membranes burst, and the arm falls into the vagina, the hand appearing externally. *Thirdly*, increased descent of the shoulder and protrusion of the forearm, doubling with compression of the body, so that the breech is driven into the pelvis; as soon as this takes place a movement of rotation succeeds. The inclined plains of the ischia direct the breech backwards into the sacral hollow; this backward movement of the trunk throws the head forwards over the symphysis pubis: from transverse, as the child was above the brim, it now approaches the fore-and-aft direction, the right side of the head, near its base, is forcibly jammed against the symphysis, the side of the neck corresponding to the presenting shoulder is forced behind the symphysis pubis, and the shoulder itself is situated under the pubic arch. *Fourthly*, the expulsive force continuing, can only act upon the breech and trunk, the shoulder being absolutely fixed; the trunk bends more and more upon its side, the presenting chest wall bulges out, and makes its appearance under the pubic arch. Then lastly, the movement in a circle of the body round the fixed shoulder is executed. The side of the trunk and of the breech sweep the perineum and concavity of the sacrum; the legs follow. When the whole trunk is born, the movement of restitution is effected, the back turning forwards, the belly backwards. The head escapes from its fixed position above the symphysis, the chin turns downwards, the occiput looks upwards to the fundus uteri: the nucha is turned to the right foramen ovale. It enters in the left oblique diameter, it takes the rotation movement in the pelvis, the occiput coming under the pubic arch, then the movement in a circle is

executed. The chin first appears, followed by the nose, mouth, and forehead, which necessarily sweep the perineum. The occiput which had been applied to the symphysis comes last. So strict is the subjection throughout this process to the laws which govern the mechanism of ordinary labour, that Laggati does not hesitate to describe spontaneous evolution as the natural delivery by the shoulder."

Art. 270.—*Eclampsia: or Puerperal Convulsions.*

By D. Warren Brichell, M.D., Professor of Obstetrics, New Orleans.

(*Southern Journal of Medical Sciences;* and *Edinburgh Medical Journal*, March.)

In a lengthened and most interesting lecture Professor Brichell discourses on this important disease. There are two prominent characteristics, he says, which distinguish eclampsia from hysteria, chorea, tetanus, catalepsy, and the minor convulsive and spasmodic conditions we meet with in practice. These are (*first*) intellectual annihilation, and (*second*) arrest or diminution of hæmatosis. The convulsive affection, however, to which eclampsia is most closely allied, in a phenomenal point of view, is epilepsy; but the points of difference between them are these:—*first*, it is the exception to find epilepsy not characterized by what is called the "aura" or warning, whereas in eclampsia there is no premonition; *second*, epileptics are strictly convulsed, and these convulsions are marked by antagonistic action of flexors and extensors; but the eclamptic patient becomes rigid, being bent backward or to one side, and her limbs are fixed in extension. Then, again, epilepsy occurs to both sexes, in all ages; while eclampsia is peculiar to the pregnant or parturient female. Again, epilepsy is distinctly disposed to become chronic and to last through years, recurring at intervals, and rarely kills speedily; whereas eclampsia is acute —less than twenty-four hours generally deciding the issue, and a few days being the full term of duration. After pointing out the distinction between eclampsia and apoplexy, Professor Brichell, in answer to the question, What then is eclampsia? briefly answers, It is *tonic* muscular action—spasm—*with coma*.

ART. 271.—*Twins weighing Seventeen Pounds. Post-partum Hæmorrhage from Atony of Over-distended Uterus—Recovery.*

By Dr. HOLSTON, Ganesville, Ohio.

(*Philadelphia Med. and Sur. Reporter;* and *Edinburgh Medical Journal*, March.)

Dr. Holston, at 6 A.M. on the morning of 31st January, 1867, was called to a lady in labour, and on examination found the os fully dilated, soft, and no hæmorrhage. Vertex presenting under right pubis. The pains being feeble, ergot was administered, and subsequently to allay mental agitation, chloroform to partial anæsthesia was given. About half-past 6 P.M. a fine big boy was born, whose weight, as was afterwards ascertained, amounted to nine pounds. The membranes of the second child protruded, and were broken,—the ergot given in increased quantity, and the flaccid abdomen of the mother supported by the hands of the nurse. The second child presented the vertex under the left pubis, and was born alive and hearty a quarter of an hour after the first. It weighed eight pounds. Now came the chief difficulty. She had taken one ounce of the tincture of ergot, and the abdomen had been constantly sustained; but the birth of the second child was followed by a terrible gush of blood, deluging bed and floor, and leaving the patient almost lifeless. Dr. Holston introduced the left hand into the uterus, and placed the right on the surface of the abdomen, making strong friction and pressure. The umbilical cord had been carefully tied with and severed between two ligatures. The placenta (there was but one with two cords) was partially detached. He removed it entirely, immediately re-introducing the hand, as the hæmorrhage, though slightly checked, was still flowing at a fearful rate. Twenty grains of powdered ergot, with a tablespoonful of tincture, and five grains of sugar of lead, were poured down the throat of the almost lifeless patient. The hands inside and outside the uterus seemed to be almost in contact, so thin had the uterine and abdominal walls become from the enormous distension (seventeen pounds of children, besides water and placenta!). The uterus felt like a wet bag. The Doctor could now control the hæmorrhage by pressure on the aorta through the back of the womb, but there was not the slightest effort at contraction. He now got a hard snow-ball, the size of a small orange, and introduced it bodily into the womb. This had the desired effect; the patient heaved a deep sigh, shuddered, and the uterus slowly contracted on the hand. A bandage and a thick compress were firmly applied, and the patient rallied slowly. Opiates and alcoholic stimuli could not be borne, but iced milk was given freely, and by 10 P.M she was considered safe. Mother and twins did well.

Art. 272.—*On the Use of the Vectis in assisting Parturition.*

By G. D. R. McCarthy, Wrockwardine Wood, Wellington, Salop.

(*British Medical Journal,* December 14, 1867.)

Mr. McCarthy prefers the vectis to the forceps for the following reasons:—

1. It may be introduced with perfect ease, and frequently hardly perceived by the patient.
2. It produces but slight marks on the fœtal head.
3. It is available before the head is low enough for the forceps; and can therefore assist in the most difficult stage of the labour, the passage between the bones.
4. It renders assistance unnecessary, which would be almost indispensable in applying the forceps to retain the first blade in its place while adjusting the other.
5. It does not alarm the patient or her friends by the clicking of "those things." For, if they know it at all, it may be described as a single instrument of great simplicity and harmlessness.
6. It may be easily shifted from one side of the pelvis to the other.
7. There is very little danger of its causing laceration of the perineum.
8. It is more portable than the forceps, and may therefore be generally carried in the pocket, and thus render needless the awful ceremony of sending home for instruments.

Mr. McCarthy's method is to introduce the four fingers of his left hand, well anointed with lard, with their backs to the perinæum, and, bringing the handle of the instrument to the pubes, the thighs being held open, slide the convexity of the curve along the inside of his fingers and then between the sacrum and the head, which is often done in a minute or two. He then brings the handle to a line in the direction of the upper axis of the pelvis, and, first depressing it—the patient lying at the edge of the bed—and then gently elevating it, the curved part passes over the head. Then, holding the handle steadily with his left hand, and carefully maintaining a sustained traction, examining with his right the progress, he keeps the head from receding in the interval of the pains. If Mr. McCarthy does not gain anything, after a short time he partially withdraws the instrument and introduces it on the lower side of the head, when it lifts it up like a lever, using some degree of traction at the same time. If he finds he cannot slide the instrument over the head, he withdraws it for a time and then introduces it again, when it generally succeeds. Under these circumstances he gives the ergot in decoction, and thus gains all the natural and artificial combined power possible.

Art. 273.—*Vesicular Mole.*

By C. F. Moore, M.D.

(*Dublin Quarterly Journal of Medical Science*, May.)

At a meeting of the Dublin Obstetrical Society, held February 8th, 1868, Dr. C. F. Moore read a case of vesicular mole or hydatid degeneration of the chorion.

"J. R., a laundress, living with her husband, aged about fifty, somewhat anxious-looking; ten children; never miscarried; eldest now twenty-nine years old; last child born ten years ago; eight now living; regular menstruation ceased about two years ago, but she was ill every seven or eight weeks since, each alternate time being severely affected.

"The discharge was sometimes preceded by a watery fluid. Between 15th and the end of August last she was very ill. Her next illness was in second week of November, and from that date until 3rd January she had continual bloody discharges, dark at first, but of a bright colour latterly. On that day the hydatiginous masses came away, being attended with considerable loss of red blood and great pain in the back.

"She had in the preceding two months frequent bilious vomiting, giddiness, and debility.

"When I obtained the specimen, eighteen hours after its discharge, it was, as has been well described by Dr. Churchill, of a beautiful pink colour generally, with some vesicles almost colourless, the vesicles being pyriform, ovoid, or round, and varying from the size of a pin's head, or smaller, to that of a grape. The hydatids were in two masses, and so fragile I have brought only the smaller portion, which has lost its beautiful tints by keeping; the larger is the size of a child's head. It is unnecessary in this society to speak of the great difference between these moles and the true hydatid echinococci which are said to have entered the uterus, as is supposed from the liver and abdomen in one case, and to have escaped from the vagina, in a recent case recorded by Dr. Hicks. My brother, Dr. W. D. Moore, ascertained that the urine was not albuminous in J. R.'s case.

"The age of the patient J. R., fifty years, induced me to bring the case under the notice of the Obstetrical Society.

"The sanguineous discharges described by J. R. as taking place at intervals of six or eight weeks during the two years subsequent to the cessation of regular menstruation, were at times of an offensive odour.

"As she has always lived with her husband since the time of her marriage, the case of J. R. tends only to corroborate the statement of those who regard the hydatid form of mole as a result of conception. At the same time it is well to bear in mind that in this case it seems probable that the conception, which produced this degenerate result, occurred more than two years before the expulsion of the hydatidiginous mass.

"The patient did not regard herself as being pregnant, although she felt some enlargement of the abdomen. She remarked upon the occurrence of the occasional discharge of watery fluid, generally preceding the attacks of hæmorrhage, which Sir C. M. Clarke has attributed to the bursting of a hydatid."

Art. 274.—*On the Treatment of Prolapsed Funis.*

By Dr. K. F. I. Birnbaum.

(*Mon. f. Geburtsk.*, October, 1867; and *British and Foreign Medico-Chir. Review*, January, 1868.)

Dr. Birnbaum gives an historical *résumé* of the plan of replacing the cord by putting the woman in the knee-elbow position. He quotes Deventer, 1701; John Mowbray, 1724; Henry Bracken, 1737, and others, as having recommended this practice; and more lately V. Ritgen (1848). As a pupil of Ritgen's, Birnbaum says he has often practised this method. He says: "When a loop of funis is still high in the cervical canal, and the cervix scarcely admits the examining finger, it may be that the knee and elbow position is useful; but when the loop has once passed through the os uteri, whether head, trunk or foot present, it will be vain to expect any good from this position. He remembers no case where manual aid was not also necessary, in addition to the knee-elbow or side position, to replace the cord, or to extract the child.

Art. 275.—*Researches on the Temperature, and on the Frequency of the Pulse and Respiration in Lying-in Women.*

By Dr. Reinhold Baumfelder.

(*Monatsschrift für Geburtskunde*, No. 12, 1867; *Gazette Hebdomadaire*, No. 17, 1868.)

The study of the varieties in temperature has acquired considerable importance in modern medicine. The researches of Billroth and Weber have demonstrated its interesting bearings on surgical pathology. Dr. Grunewald, of St. Petersburgh, and Mr. Squire, of London, have already attempted to demonstrate by practical experience the utility of the systematic employments of the thermometer on pregnant women during the puerperal state.

Dr. Baumfelder's researches were made on 226 lying-in women, and instituted in order to ascertain the normal variations of temperature during child-bed. The observations were made at least twice in the day. During the first nine days, the lying-in may be considered as perfectly normal so long as the temperature of the body does not exceed 38° Centigrade. Out of 226 observations, however, this normal type was presented only in twenty instances.

The duration of the accouchement seems to have a marked influence upon the changes in the temperature; these variations may be briefly and generally stated in the following manner:—After labour the temperature rises and then remains nearly constant. During the next twelve hours there is a depression which usually coincides with the morning remission and persists for twelve hours. The temperature rises and reaches its maximum about the fourth hour, and then presents no notable difference until the sixth hour. At this period there is a depression, more or less sudden, which is most marked on the evening of the sixth day. On the seventh or eighth day the temperature is very little lower than that observed on the nine preceding days. Finally, on the ninth day, the temperature becomes normal, or presents a slight elevation, owing to the patient leaving her bed for the first time. The mean temperature during these nine days is 37°·22 Centigrade, that of the arterial pulsations, 66, that of the number of respirations, 20.

The pulse rapidly attains the maximum between the first and the third day; it then falls gradually and with remissions until the end of the fifth day; it rises on the sixth, and becomes normal after the seventh day.

Dr. Baumfelder next examined the temperatures in the complications of labour: as traumatic fever, diphtheria, parimetritis, and parametritis.

Traumatic fever was met with in eleven cases out of the 226; in five instances it was accompanied by secondary fever. The attacks were preceded by shivering; the duration of the fever was one day in one case, two days in one case, three days in four cases, four days in five cases. The maximum of the temperature varied between 38°·6 and 39°·9 C.

In diphtheria, the fever presented remissions and intermissions. The remissions were from 1°·5 to 2°·5 Centigrade, without a return to the normal state. The pulse presented the remarkable phenomenon of being raised ten pulsations per minute above the number which, in other maladies, corresponds to the same height of the temperature. The maximum is 41°·4 Centigrade, to 150—168 pulsations.

The study of slight forms of parimetritis and parametritis led to the important result that pain is preceded for several hours, and even for a whole day, by elevation of temperature.

Art. 276.—*Podalic Bi-polar Turning. The Use of Anæsthesia and the Preparation for Turning.*

By Robert Barnes, M.D. Lond.

(*Medical Times and Gazette*, May 2, 1868.)

"Before commencing the operation, there are certain preparatory measures useful or necessary to adopt.

"The question of *inducing anæsthesia* arises. It would partake too much of the nature of a digression to discuss at length the indications for chloroform as an aid in turning. I will do no more than glance at the principal points.

"Chloroform is resorted to in the hope of accomplishing two objects: The first is to save the patient pain; the second is to render the operation easier to the operator. The attainment of both objects is sometimes possible; sometimes not. It is not difficult to render the patient insensible, but you will not always at the same time make the operation more easy. It will commonly be necessary to push anæsthesia to the surgical extent. If you stop short of this degree, the introduction of the hand will often set up reflex action, and you will be met by spasmodic contraction of the vaginal and uterine muscles, and perhaps by hysterical restlessness of the patient. You will have lost the aid of that courageous self-control which English women pre-eminently possess. You must then carry the anæsthesia further, to subdue all voluntary and involuntary movements, and to lessen the reflex irritability of the uterus. Then, but not always, you will secure passiveness, moral and physical, on the part of the patient; the uterine muscles will relax; they will no longer resent the intrusion of the hand. These advantages are not indeed always obtained without drawbacks. A perfectly flaccid uterus indicates considerable prostration, and predisposes to flooding.

"The state of the *cervix uteri* has to be considered. It is one of the natural consequences of a shoulder presentation that the cervix uteri is but rarely found dilated sufficiently for turning and delivery until after—perhaps long after—the indication for turning has been clearly present. A shoulder will not dilate the cervix properly. The same may be said of many cases where turning is indicated by danger to the mother from convulsions, hæmorrhage, &c. To wait for a well-dilated cervix would be to wait until the child or mother is dead. It follows, therefore, that we must be prepared to undertake the operation at a stage when the cervix uteri is only imperfectly dilated.

"What is the degree of dilatation necessary? If the question be simply one of turning, it is enough to have a cervix dilated so as to admit the passage of one or two fingers only, since it is not necessary in the class of cases we are now discussing to pass the hand into the uterus.

"But since the ulterior object contemplated is delivery—with the birth of a live child if possible—we must have a cervix dilated enough to allow the trunk and head of the fœtus to pass without excessive delay. The modes of dilating the cervix artificially having been described in a previous lecture, it is sufficient here to call to mind the two principal modes—viz., by the hydrostatic dilators and by the hand. The water-bag properly adjusted inside the cervix, if labour has begun at term, will commonly produce an adequate opening within an hour. Sometimes the fingers alone will succeed as quickly. Quite recently in a case where the head presenting could not bear upon the cervix to dilate it because of slight conjugate contraction, I expanded it by the fingers sufficiently to admit the narrow blades of Beatty's forceps within a few minutes; the instrument however was not powerful enough to bring the head through. I therefore turned and made the breech and trunk complete the dilatation. The head required considerable traction to bring it through the narrow conjugate; but the child was saved. At the beginning the os barely admitted one finger; yet the patient was delivered within an hour. But we cannot always proceed so quickly.

Nor is it commonly possible to effect by artificial means that complete dilatation which is required to permit the head to pass freely.

"The average obstetric hand will easily traverse a cervix that is too small to allow the head to pass; so that after all, even in head-last labours, as in head-first labours, the head must generally open up a passage for itself. What we have to do is to take care that the parts shall be so far prepared when the head comes to be engaged in the cervix, that the further necessary dilatation may take place quickly, for this is the stage of danger to the child from compression of the funis between the os uteri and the child's neck. The management of this stage will be described subsequently. It is enough now to point out that a cervix uteri expanded so wide as to admit of three fingers manœuvring without inconvenience, is *enough for turning* under the circumstances of the case we have assumed.

"The general rule of emptying *the bladder and rectum* applies even more strongly to turning than to forceps or craniotomy operations.

"What shall be the *position of the patient?* I have generally performed the operation of turning under whatever circumstances, the patient lying on her left side. It is of importance, I think, not to raise alarm in the patient or her attendants by adopting any great departure from the usual rules of the lying-in chamber. To place the patient on her back involves very considerable, even formidable preparations. The patient must be brought with her nates to rest on the very edge of the bed; she must be supported at her head; and two assistants must hold the legs. Still there are cases in which this position may be preferable or unavoidable. There is another position, also in some cases useful—the knee-elbow position. But this precludes the use of chloroform. We may obtain all the necessary facilities by keeping the patient on her left side. The nates must be brought near the edge of the bed; the pillows are removed so as to allow the head and shoulders to fall to the same level as the nates. The head is directed towards the middle of the bed, so that the operator's arm may not be twisted during manipulation; the knees are drawn up; and the right leg is held up by an assistant, so as not to obstruct or fatigue the operator's right hand, which has to pass between the thighs to work on the surface of the abdomen.

"*The presence or absence of liquor amnii in the uterus* is a matter of accident. If it be still present, so much the better; but you must be prepared to act all the same if it be not there. It is needless to state that the child will revolve more easily if it be floating in water; but it must not only be made to revolve, you have to seize a limb. At some time or other therefore, the membranes must be ruptured. What is the best time to do this? If you are proceeding to turn in the old way—that is, by passing the whole hand into the uterus before seizing a foot—it is an advantage to follow the plan recommended by Peu of slipping the hand up between the uterine wall and the membranes until you feel the feet, and then to break through and seize the limbs. During this operation the arm, plugging the os uteri, retains the liquor amnii, and on drawing down the legs, the body revolves with perfect facility.

"But if you are proceeding to turn by the bi-polar method, with a

cervix perhaps imperfectly opened, the membranes must be pierced at the os. In this case you may perhaps accomplish the first act in version—that is, of removing the head or shoulder from the brim, and of bringing the knees over the os whilst the membranes are intact. This you can try first, only rupturing the membranes when you are ready to seize the knee. But sometimes an excess of liquor amnii imparts too great mobility to the child; you are unable to fix it sufficiently to keep the pelvic extremities steady upon the os; it will bound away as in *ballottement*, the moment you touch it through the os. In such a case it is better to tap the membrane first *and allow a part of the liquor amnii to run off*. While doing this you should keep your fingers on the presenting part to ascertain how its position and mobility are being influenced by the escape of the waters and the contraction of the uterus, so as to seize the right moment for proceeding.

"Now if you assent to what I have stated, you will find that you are committed to *the use of your left hand as the more active agent* in the operation. You want the right hand to work outside on the abdomen; therefore the left hand must be introduced into the vagina. It is a case where ambidexterity is eminently required. The left hand in most people is smaller than the right. The patient lying on her left side, the left hand follows the course of the sacrum far more naturally than the right. It meets the right hand outside, the two working consentaneously with comfort, involving no awkward or fatiguing twisting of the body. Moreover, in the great majority of cases the anterior surface of the fœtus, and consequently its legs, are directed towards the right sacro-iliac joint—that is, inclining backwards and to the right, so that the left hand passed up into the hollow of the sacrum, will reach the legs with the utmost convenience. I strenuously advise every young man who is preparing for obstetric surgery to put his left hand into training, so as to cultivate its powers to the utmost."

Art. 277.—*On Turning in Narrow Pelvis.*

By Professor E. Martin.

(*British and Foreign Med.-Chir. Review*, April.)

Professor E. Martin discusses the use of turning in contracted pelvis. He denies the proposition that the head enters the brim with more facility base first, if the child is living. He insists that when the vault presents moulding may go on gradually and safely for hours; whereas if the base come first, the moulding must be effected by force, and within five minutes in order to save the child. He points to the importance of getting the smaller or bi-temporal diameter of the head into the contracted conjugate diameter, and the occiput with the greater or biparietal diameter into the larger side of the pelvis. This may be effected in three ways:—1st. By a fitting position of the woman. Let her lay on that side towards which the forehead is directed; the fundus of the uterus will gradually sink with the pelvic end of the child to this side; the spine draws down the occiput to the opposite side of the

pelvis, and the forehead goes more deeply towards the middle of the brim. Martin refers to a case in which he successfully executed this, the pelvis measuring only three inches. 2nd. The forceps is a means of releasing the engaged posterior or larger transverse diameter from being locked in the conjugate. This explains the frequent easy extraction when a little traction is made. This method is indicated when signs of exhaustion or of need for delivery exist; but it must not be trusted to overmuch. We must be prepared to perforate. 3rd. Turning by the feet. When this has been done, Martin has always found the depression caused by the promontory to be on the temporal bone. In many of these cases he found after some hours signs of blood-effusion in the cranium—ex. gr., convulsions in the face. He thinks turning is advisable only when the transverse diameter of the pelvis is great enough to allow the occiput to pass by the side of the promontory.

In the case of one-sided distortion of the pelvis, turning is hardly admissable. Martin refers to cases in which the occiput descending in the narrow half of the pelvis, delivery had to be accomplished by perforation; whereas, when the occiput was turned to the normal side of the pelvis, the forceps delivered easily. This occurred in the same patient. He also gives cases in which the occiput, being unfavourably situated, a face-presentation was developed. This happened twice in the same woman, under his own observation.

The indication for turning in narrow pelvis occurs when it is possible to bring the smaller anterior diameter of the head into relation with the narrowed conjugata, and the occiput into the larger half of the pelvis; and when this more favourable position of the head comes to be effected by placing the woman in a fitting position. He then asks, Can the head be so placed by turning? In consequence of the known law, that in incomplete foot-presentation the foot that is drawn down always comes under the pubic arch, if the fœtus is not abnormally small or the pelvis too large, in drawing down the right foot the child's back and also its occiput will come into the right half of the uterus, and *vice versâ*.

(B) CONCERNING THE DISEASES OF WOMEN.

ART. 278.—*Morning Sickness of Pregnancy.*

Hospital Out-Patient Practice.

(*The Lancet*, February 22.)

This affection, which is so common as to be usually almost disregarded, becomes occasionally a source of great discomfort or even danger to the pregnant woman. The phenomenon, sometimes termed "sympathetic," would frequently appear to depend upon reflex secretion by the stomach of a large quantity of unduly acid gastric juice. The source of centripetal irritation being one which, in the ordinary course of things, we cannot remove or influence, it might naturally be expected that most benefit would be derivable from remedies which

diminish the reflex faculty of the central nervous system; and it will be noticed that, in the experience of the authorities whom we quote, sedative remedies are those which apparently met with most approval. Of all drugs, belladonna probably possesses the most power in diminishing reflex excitability. It might perhaps be well to try, in very troublesome cases, the subcutaneous injection of atropine in exceedingly minute doses.

St. Bartholomew's Hospital.—The plan of treatment which Dr. Greenhalgh has found most successful consists of rest in the semi-recumbent position, especially after meals, which should consist of bland, nutritious, and unstimulating food, frequently administered, and in small quantities. The patient should take a little coffee about a quarter of an hour before rising, and should guard against long fasts. Great attention should be paid to the state of the bowels. In some cases a slight bandage round the lower ribs, and under this a strong sedative application over the epigastrium, appear to have done good. Effervescents, with hydrocyanic acid, belladonna, or nux vomica, ice, and in some cases lemon-juice, have proved useful. Bismuth and charcoal, where there have been large secretions of acrid mucus, accompanied with flatulent eructations, have appeared serviceable. But of all remedies Dr. Greenhalgh places most reliance upon the introduction into the vagina of morphia suppositories, most especially in severe cases, and where an irritable condition, with or without abrasion of the cervix uteri, is found to exist. In such cases he believes little or no reliance can be placed upon remedies taken by the mouth, which he has found rather to aggravate than relieve the vomiting. In the four cases especially alluded to, the first two were immediately relieved, and ultimately cured, by the suppositories; in the third the sickness abated shortly after the replacement of the uterus; while in the fourth, artificial premature labour at seven and a half months was successfully had recourse to. Dr. Greenhalgh recommends from one and a half to two grains of morphia as the usual strength of the suppository; but in cases where there is abrasion, with little secretion, care should be taken against an overdose. Dr. Greenhalgh states that he has seen some remarkable cases illustrating the influence of the mind on the vomiting of pregnancy. A lady, reduced to the most alarming state of prostration by this symptom, was suddenly informed that her favourite child was dangerously ill with scarlatina. She at once, and against the most urgent remonstrances, left her bed; the sickness ceased, and she tended her child unremittingly night and day for many days without even one recurrence of the vomiting. Some years ago he attended a milliner who suffered most severely from vomiting. She was pregnant, and for the first time, and with twins. No matter how severely she might be suffering, if summoned to see a customer, the vomiting immediately ceased, and did not recur on that day.

University College Hospital.—Dr. Graily Hewitt generally finds benefit derivable from giving the patient some nourishing article of diet, such as a teacupful of beef-tea, a small sandwich of meat, a cup of milk, &c., before raising the head from the pillow. The change of posture from the recumbent to the upright position appears to excite the attack when the stomach is empty, but not so much so when the attention

of the organ is, so to speak, otherwise occupied. The patient should remain a few minutes or longer in bed after this early meal before attempting to rise.

King's College Hospital.—Dr. Playfair is of opinion that there is much truth in the old belief, that pregnancies without morning sickness are not as a rule favourable. He has so frequently noticed that when sickness is entirely absent other and more distressing reflex phenomena, such as syncope, exist to an unusual degree, that he is disposed to look upon the entire absence of nausea as unfavourable. When morning sickness is excessive he has frequently verified the opinion of Dr. Clay and others, that there is some morbid condition of the uterus itself, and has found local treatment, such as the occasional application of leeches to the vulva, or of iodine paint to erosions of the cervix uteri, to be of great service. With regard to actual medicines, he is disposed to place most reliance on the oxalate of cerium, in doses of two grains three times a day. Next to this, effervescing draughts, with hydrocyanic acid, ice, for suction, *ad libitum*, and the subcutaneous injection of morphia, seem to have answered best. The pyroxilic spirit, strongly recommended in a late volume of the *Obstetrical Transactions*, has not been found to answer so well as was expected.

British Lying-in Hospital.—The vomiting of pregnancy, purely resulting from sympathetic irritation, and not due to ulceration or some morbid condition of the uterus during gestation, has been treated by Dr. Murray in the following way:—

In the sickness occurring in the morning, and even before rising from bed, one teaspoonful of sal volatile in water has proved useful. When nausea occurs several times during the day, he recommends the use of sinapisms to the epigastric region, with a pill containing the oxalate of cerium and camphor, to be taken twice or thrice daily. In one or two cases he had found the morning nausea and vomiting stayed by getting the patient to eat either a biscuit or sandwich sometime during the night, or very early in the morning. Salicine is a drug which he has used with success. Opium and ice are other agents of much value in certain cases. In the cardialgia of pregnancy great attention must be paid to the diet, which should be light and nutritious, and a small quantity of food taken at a time, and at short intervals. He recommends lime-water, in preference to soda-water, to be taken with almost every drink; and has found nitro-muriatic acid, with some bitter infusion, very useful.

Hospital for Women, Soho Square.—The tincture of aconite in five to ten-minim doses, the tincture of belladonna in ten-minim doses, the liquid extract of opium in five-minim doses, or the dilute hydrocyanic acid in five-minim doses: one or other of these is the remedy which Dr. Meadows most commonly and most successfully prescribes. He has also observed marked effects from the oxalate of cerium, or the citrate of bismuth, in five-grain doses. In very intractable cases he has sometimes tried with good effect a small blister, about the size of a florin, over the epigastric region, the blistered surface being afterwards dressed with some diluted savin ointment containing one grain of morphine in a drachm.

Art. 279.—*On the Pathology and Therapeutics of the Vomiting of Pregnancy.*

By Dr. Betz.

(*Memorabilien* xii. 5, 1867; *Schmidt's Jahrbücher*, No. 1, 1868.)

It cannot be denied that many desperate cases of dangerous sickness in pregnant women have been cured sometimes by this remedy, and at others by that, probably owing to the different idiosyncrasies of the patients. In order to be successful in his treatment, the practitioner must trace back the symptoms of his particular case to some definite cause. The following case is not without interest in its bearing upon this idea:—

A woman, three months gone in pregnancy, had suffered for five weeks from vomiting, which ceased at night, and was eventually associated with diarrhœa. There was no swelling or pain in the region of the stomach; the tongue was red, dry, and furred; there was a sour smell from the mouth; the palate and fauces were inflamed; the mouth contained much frothy mucus, and there was also complete loss of appetite. As every remedy was immediately rejected by the stomach, Dr. Betz injected subcutaneously one-third of a grain of morphia, and as this had no effect, he then introduced two-thirds of a grain. For the catarrh of the mouth and fauces a solution of lunar caustic (eight grains to the ounce) was applied locally with a brush. At the end of the fourth day the vomiting had entirely ceased.

Art. 280.—*A Note on Menorrhagia.*

(*The Lancet*, January 4.)

Troublesome cases of menorrhagia treated with success are always worthy of record, for there are few disorders more trying to the medical practitioner. The result of treatment in the following instance, which was lately under Dr. Murray's care at the Great Northern Hospital, was very favourable. The patient was a woman of highly scrofulous habit. She had had many children, and her uterus was large, heavy, and indurated, with the mucous membrane of its interior granular, and bleeding at the least touch. The loss of blood was severe at the periods, and continued during their intervals, though not to so great an extent. She had, however, sustained so much loss, that complete amaurosis had occurred, and her health was otherwise most seriously damaged—the nervous system being generally shattered.

Dr. Murray, after having tried plugging, and the various styptics usually employed, even injecting the uterus with a solution of iron, met with great success in adopting the course which was originally, we believe, suggested by Dr. Henry Bennet—viz., plugging the uterus itself.

Three or four small pieces of cotton wool were used, to each of which were fastened long pieces of silk for the purpose of withdrawal. These

little plugs having been first dipped in a solution of the sesquichloride of iron, were carefully pushed through the speculum into the uterine cavity, by means of the sound, and allowed to remain *in situ* from twenty-four to forty-eight hours, the iron preventing any unpleasant consequences from decomposition. This treatment was pursued for about ten days, after which time menstruation took place in a normal manner, and there followed no hæmorrhage of any kind.

Dr. Murray is disposed to think that the delay which often takes place before local remedies are resorted to in some cases of menorrhagia, is frequently attended with the most mischievous results. The timely application of various forms of styptics to the uterine membrane will often save the patient from serious and sometimes irreparable consequences of a long-continued drain from the system.

Art. 281.—*On the Diagnosis of the Obliquely-distorted Pelvis.*

By Dr. J. Schneider.

(*Monats. f. Geburtsk.*, April, 1867 ; and *British and Foreign Medico-Chir. Review*, October, 1867.)

The diagnosis of this deformity is unusually difficult. Dr. Schneider has tested the value of the rules for estimating the internal measurements by external measurements proposed by Naegele. He concludes that these are untrustworthy; there are no constant relations between the two. He believes a better method consists in observing the form and alterations of position of the sacrum; in the projection of the posterior spine, which approaches the middle line; in the greater elevation of the anterior spine of one side; and by internal examination, in the projection of the promontory to one side.

Art. 282.—*On Polypus Uteri.*

By Robert Dyce, M.D., F.R.S.E., Professor of Midwifery, University of Aberdeen, &c.

(*Edinburgh Medical Journal*, December, 1867.)

Dr. Dyce places on record forty cases of polypus uteri which have occurred in his practice during the last few years. All of them have been successfully removed, and the patients restored to perfect health in a very few days. He has only met with two varieties of tumour, viz., the purely fibrous, and the fibro-cellular or vesicular; but by far the greater number were of the former or fibrous variety, only a very few were of the latter or vesicular form. The fibrous were uniformly hard, more or less globular, smooth, and insensible; the fibro-cellular were less regular in shape, only partially firm, but still insensible to the

touch. In size they have varied remarkably, from that of a walnut to that of a child's head, and even larger, the more ordinary size that of a large orange. In two cases their size required a midwifery forceps for their extraction; and in one case the perineum was ruptured where no forceps were used. The place of attachment has been generally from the fundus, or some part of the cervix uteri; if from this latter, more often from its posterior part; the smaller generally from the lip, or very near it, but as often from one lip as the other. Generally there was a manifest stem or stalk, but some of the larger were sessile, springing from a large surface, and adhering throughout to the wall of the uterus. All the large intra-uterine were sessile. The vaginal had more or less of a stem, yet it was often very large.

With the exception of four cases, they were single tumours. In the exceptions, two had two tumours removed at one time, a third at an interval of twelve months, and a fourth case had a perfect quarry—one large tumour being removed in 1856, two in 1859, one in 1862, and five in 1863. The smallest of these quite equalled a small hen's egg.

The symptoms were very uniform, and the history nearly alike in all, viz., increased catamenia at first, then hæmorrhage to a greater or less extent, with leucorrhœal discharge, and at length the health gave way, and all the consequences of so continuous a drain upon the system followed, viz., prostration, anæmia, and dropsical effusions; and these effects were often irrespective of the size of the tumour, for Dr. Dyce has seen often more blood lost, and greater prostration and disturbance to the constitution from tumours not larger than a pigeon's egg, than from one weighing some pounds. The diagnosis of the extra-uterine, or those which had passed either partially or wholly into the vagina, was very clear and easy. They were uniformly insensible when pricked or scratched; and any tumour found in the vagina possessing this character, proceeding from where it might, and with a history such as he has mentioned, was submitted to treatment for its removal with the uniform result of the patient's speedy restoration to perfect health. With regard to intra-uterine tumours, the diagnosis was less easy, as there was not the same tactile evidence for a guide; still, if any case of uterine hæmorrhage resisted the ordinary means of subduing hæmorrhage, it was at once submitted to the test of the uterine sound and sponge, or tangle tents, so as to produce dilatation of the os uteri—methods indispensable in all cases of this description—and the result was the discovery of an intra-uterine tumour. Dr. Dyce urges the necessity of making a vaginal examination in all cases of prolonged hæmorrhage from the uterus or vagina.

When the tumour is intra-uterine, it requires some tact to recognise it. Much will depend upon the amount of education the finger of the examiner has received; for what may be very sensible to one, may not be detected by another: besides this, firm pressure must be maintained above the pubes, so as to press the uterus down into the pelvis—the patient at the time lying on her back, and the knees drawn up and expanded. The mode of removal was various; any single method, in Dr. Dyce's experience, is not suited to all, though in by far the greater number of cases, simple excision will supersede every other method; but in some cases it is not necessary, as in the smaller sort arising from

the lip of the uterus; and in the larger and sessile, springing from a large surface in its interior, it is quite ineligible. The danger attending this plan—viz., hæmorrhage—has been much exaggerated, and Dr. Dyce never saw in a case of purely fibrous tumour, whatever its size may have been, such an amount of blood lost as even to require plugging the vagina, though he makes it a rule always to do so for a few hours. But in the cellular variety the circumstances are very different; they are much more vascular, whatever be their size, and have, in every one of his cases, been accompanied with such profuse hæmorrhage at the moment of removal as to require immediate attention.

This circumstance, however, has not prevented Dr. Dyce pursuing the same treatment, if the tumour was otherwise suitable for excision, as he found that *the ordinary* tampon, well applied for twenty-four hours, has removed all risk, and should in every case be used. Before he had made plugging a part of the operation, he nearly lost a patient from this cause.

The following table exhibits the various methods employed, and the number removed by each plan:—

Excision	18
Excision with enucleation (double origin)	1
Ligature alone	9
Ligature with excision	3
Torsion	4
Enucleation	3
Ergot alone	1
Ergot with sponge tents	1
	40

The instruments used for excision were a strong vulsellum, and equally strong curved scissors, which cut principally from near the point, which latter is rounded. The scissors are 10 inches long, and slightly bent; the vulsellum of the same size, but nearly straight. The distance from the handles to the joint, in both, is 7 inches.

For ligature, the double straight canula of Neisson, improved by Gooch and Levret, was used, and latterly an improvement was added, by which the ligature was passed around a winch, and thus more readily tightened; the material used was strong whip-cord. Dr. Dyce once used wire, intending to cut off the tumour at once, but it did not succeed, although the process was shortened. The cord was tightened morning and evening, and the vagina syringed at the same time with tepid water. Usually in from four to seven days the neck was cut through. Dr. Dyce never but once saw any constitutional symptoms follow, but the length of time required, and especially the care requisite to prevent injury by the patient impaling herself, and the consequent necessity of keeping her on the side during the period of its application, induced him to substitute the scissors in all his future cases.

For torsion, the vulsellum was alone sufficient; and it is far preferable to two fingers, which some recommend, because once a sufficient hold is obtained, a few turns will readily separate the tumour.

For enucleation, a scratch with the finger-nail has generally answered, and once begun, it is easily completed, provided the tumour is within

reach. The rent made in the investing membrane while fixing the vulsellum, is another and ready spot for this purpose, but sometimes a slight snip with the scissors may be required. The vulsellum is here indispensable, both for dragging down the tumour as well as fixing it. This mode of operating is so speedy and so bloodless, that Dr. Dyce always now first attempts enucleation; but, in his experience, there are very few tumours so loosely invested as to admit of this mode of operating; still he thinks it should always be tried.

The principle which first led Dr. Dyce to employ ergot was, that, believing, as he does, that during every severe uterine pain in labour the circulation through the vessels of the uterus by which the placenta is supplied is entirely arrested, it occurred to him, that if he could first create uterine contraction, and then continue this contraction for a length of time *continuously*, he would arrest the circulation for such a length of time as to prevent the tumour receiving sufficient or any nourishment; that the consequence would be the death of some part of the tumour; and that, once it had begun, it would go on dying and decomposing, and thus eventually the whole mass be brought away. It is on this principle of continuous action that ergot destroys the life of the child in labour, for so long as there are intermissions of ease, Dr. Dyce never saw danger from it, but so sure as the pains are constant and without any intermission, the child will die, unless immediately born. It is from the same cause that, in impetuous labour, called "tetanic," where *no* ergot is given, children are lost, the too long-continued action preventing circulation between the fœtus and mother, and hence due aëration of the blood for its life and nourishment. This theory Dr. Dyce acted on, and succeeded in removing from two patients a tumour of enormous size, in a very few days, which filled the whole uterus, and distended the abdomen to a size far larger than that of a woman at the full time of pregnancy.

Dr. Dyce concludes his interesting paper with detailing a few cases illustrative of the various methods adopted.

Art. 283.—*On Uterine Polypi.*

By J. Braxton Hicks, M.D., F.R.S.

(*Guy's Hospital Reports*, Third Series, vol. xiii.)

The report Dr. Hicks has drawn up embraces forty-one cases of uterine polypi treated by him, twenty-five of them occurring in Guy's Hospital, the remainder in private practice. The cases include polypi of various kinds and of different sizes, some of them as large as could possibly occur. Some of them were smaller, but none of them were the flimsy vascular growths of small size which sometimes sprout from the os uteri. They have, however, this in common, namely, that they were all treated by the plan of immediate separation, and all removed by the annealed steel wire rope écraseur, described by Dr. Hicks in the *Guy's Hospital Reports* in 1861, and in the *Obst. Trans.*, London, 1862.

They also have these points in common, as regards the results, that

no death occurred, and the removal was not followed by hæmorrhage, nor by symptoms which gave any anxiety, excepting in two instances.

The cases occurred in women over 35, with two exceptions; the majority were over 40 years old.

One great point in the treatment of uterine polypi, as well as in all operations on the uterus or vagina, is the keeping the patient in a state of quiescence for some time after. Dr. Hicks prefers even in the simpler cases a fortnight, and in the larger kinds three weeks, to elapse before the patient gets about as usual.

Another point in the treatment of these and similar cases is the removal of secretions by warm vaginal douche twice at least a day.

Art. 284.—*On Vaginismus.*

By Dr. Victor Revillout.

(*Gazette des Hôpitaux*, No. 88, 1867.)

The name of vaginismus has been given to excessive contraction of the vaginal orifice, which is due to a morbid condition of the constrictor muscle, and forms an obstacle to coition, or renders it very painful. It has been attributed to a certain condition and not to an action of the muscle, as it will be seen that the contraction may in certain cases be passive.

A young woman, a domestic servant, presented herself to Dr. Richet in order to be treated for this affection. The circumstances under which this contracted state of the vagina had become a source of suffering were not mentioned, but it was probably due to an inflamed vulva, produced by unsuccessful attempts at coition.

On separating the labia magna the meatus urinarius was perceived to be red and inflamed; the vaginal orifice, turned towards the right side, admitted with difficulty a female catheter. All these parts were the seat of intense pain, and when attempts were made to introduce the point of the little finger, the patient seemed to suffer very acutely.

The local irritation, which was probably traumatic, having been relieved, Dr. Richet performed dilatation by means of a bivalve speculum, introduced when closed, and withdrawn opened. Pads were then placed in the vagina. By this treatment the patient was perfectly cured; the traces of small lacerations caused by the speculum remained; the index finger could be introduced without giving pain, and was not even grasped by the orifice.

It must not be supposed that every case of vaginismus is so simple as that reported by Dr. Richet. In this patient coition had not taken place, and the obstacle was due to an exaggeration of the physiological resistance offered by the tissues, to a tonicity of the constrictor muscle. When this is the case, the most simple and efficacious treatment is evidently that of dilatation. When once the sphincter is fully dilated, the passage remains open, as in its normal condition with married women.

M. Debout proposed to operate according to the method carried out

by M. Recamier in cases of fissure of the anus: to place the patient under the influence of chloroform, and to overcome the resistance with the two hands. M. Richet's proceeding amounts to the same thing, except that the dilatation is measured and limited by the amount of separation given to the valves of the speculum. In Great Britain, Dr. Churchill prefers slow dilatation by a sound or speculum which is allowed to remain, and the dimensions of which are gradually increased.

But all these means are inefficacious when the vaginismus is no longer physiological, so to speak, but rather, properly speaking, pathological. As for example, when it occurs in married women who have borne coition for a long time without suffering, or even in women who after several pregnancies have arrived at the change of life. Cases of this kind are not extremely rare, and have been reported by Dr. Marion Sims, M. Courty, and others.

Vaginismus is then no longer due to normal tonicity, but to spasm or chronic contraction, and very frequently results from a reflex action, and is the consequence of pain caused by the contact of some foreign body. This pain may be neuralgic.

Dr. Marion Sims has discovered in many patients, every part of whose genitals seemed to be perfectly healthy, that there was excessive hyperæsthesia of the external surface of the hymen, and that it was necessary to remove the whole of this membrane before dilating, in order to relieve the contraction. In some cases where the hymen did not exist, the *débris* of this membrane were the seat of a morbid sensibility, and these were removed by Dr. Sims.

In many instances the pain is not simple neuralgia, but rather inflammatory or mixed. Granular inflammation of the vaginal mucous membrane, or of the neck of the uterus, or some ulceration of this latter part, &c.; or briefly, those alterations which in the majority of females pass almost unperceived, occasion among some the most distressing and obstinate vaginismus.

Generally in cases of this kind, anæsthesia from chloroform or ether removes the vaginismus for the moment, because it removes the abnormal sensibility, and the reflex action of which it is the consequence. The same thing then happens as when patients affected with false ankylosis are put under the influence of chloroform. The contraction of the muscles ceases, and the vagina may be distended, as limbs previously immovable may be put into action during anæsthesia. When the sensations return, muscular spasms and active contractions are reproduced.

In cases of inflammation, as of neuralgia, this effect of anæsthesia may be produced when the contraction is active and reflex. If the muscle itself be affected and the contraction be passive, as often occurs in muscles previously paralysed or actively contracted, it will not manifestly cease during the sleep of chloroform. Anæsthesia, however, will facilitate the examination by permitting the forcible introduction and separation of the speculum, and removing the fear of causing acute pain.

When any lesion exists and is revealed by the speculum, the cure of this often suffices for the cure of the vaginismus.

Art. 285.—*On a Case of Puerperal Fever, or Puerperal Pyæmia, after an Abortion.**

By Dr. Snow Beck.

(*Medical Times and Gazette*, February 22.)

In this case, abortion was induced at the end of the fourth month, in a healthy young lady, aged twenty-six. After a short time the symptoms observed were, dirty and muddy complexion, great weakness, intense thirst, constant retching, cold perspirations, extremely rapid pulse, mind clear, though wandering sometimes, and much irritability. She died on the sixth day after the abortion. The post-mortem examination showed the uterus large and flabby, a portion of placenta imbued with purulent fluid, adherent to the uterus, and attached to it a considerable amount of coagulated blood; purulent fluid in the uterine sinuses, which were otherwise healthy, but so patent as to admit of fluid being injected through them; peritoneum not injected, though the pelvic portion was covered by a thin layer of soft lymph, and there was effusion of brownish serosity into the cavity; lobular congestion of the lungs; effusion of serum into the pleuræ, with soft lymph on the surface; small collections of similar exudation beneath the pleura. The minute structure of the internal surface of the uterus was fully detailed, and the relations of the placenta found to accord with the descriptions of the Hunters and others. The case appeared clearly to show the purulent infection of the general system through the previous state of the uterine sinuses; also that one of the most fatal forms of puerperal fever arose from this cause; the sinuses being pervious in consequence of a want of permanent contraction of the uterus. The statement of Dr. Barnes that he had repeatedly seen puerperal fever after perfect contraction of the uterus was examined, and the cases related by him were considered by the author to be diseases very different from puerperal fever—viz., Bright's disease, obstruction of the gall-duct, acute atrophy of the liver, scarlatina, and phlegmasia dolens. Lying-in women, when exposed to the infection of zymotic diseases, frequently took those diseases, but their essential characters remained unchanged. They often existed epidemically, and were infectious, and hence arose the assumed epidemic character and infectious nature of puerperal fever. In the treatment it was considered of much importance to prevent the purulent infection, by effecting a firm and permanent contraction of the uterus: when it had occurred, to cleanse out the uterine cavity, and give the sulphites. The large administration of brandy and the application of a tight bandage were prejudicial, and the latter impossible, from the tenderness of the abdomen and uterus.

After some remarks from Dr. Tyler Smith, the following letter from Dr. Barnes, who was unavoidably absent, was read:—"I am confident that contraction of the uterus, although a very desirable object to attain, is not a security against puerperal fever. I wish also to observe

* Abstract of a paper read at a meeting of the Obstetrical Society London, December 4, 1867.

that Dr. Beck bases his criticisms upon five cases referred to in my lectures, as if these cases embodied my complete views upon puerperal fever. The lectures were broken off for want of time. I had of course a great deal to say about septicæmic or pyæmic puerperal fever arising in the patient's own system. I maintain that the division I propose in those lectures on puerperal fever into excretory, uræmic, cholæmic, scarlatinal, septicæmic, &c., is of great clinical value. For example, a lying-in woman is taken with fever. It is very difficult, sometimes impossible, at first to tell whether that fever is really of epidemic origin, as scarlatinal, or whether it be strictly of puerperal origin. The puerperal state will impress its stamp upon any kind of fever, no matter whence obtained. Therefore it is a sound clinical proceeding to regard every fever in a lying-in woman as puerperal fever first; then to endeavour to analyse the symptoms with a view to discover the peculiar or special nature of that fever. To say that true puerperal fever is not contagious is to refuse to believe in one of the best-attested facts in medicine."

Dr. Playfair said that he was in the position to relate a fact connected with puerperal fever which seemed to him to be of itself sufficient to negative Dr. Beck's theory that zymotic diseases were not modified by the puerperal state. Some years ago a lying-in ward had been established at King's College Hospital. The utmost care had been taken in the construction and management of the ward, but in spite of every precaution the mortality had been for the last year or two excessively high. About a month ago numerous cases of erysipelas appeared in the surgical wards, and immediately afterwards the two most recently confined women were attacked with a very adynamic form of puerperal fever, which proved fatal in both instances. There could be no doubt that the cause of the disease was the same as that which was producing erysipelas in the surgical wards. There was, however, no trace of erysipelas as such in the puerperal cases, and the natural inference was that the action of the poison was modified by the state of the patients. He was happy to state that the authorities of the hospital had now determined to close the ward altogether. Doubtless a relaxed condition of the uterus was, as Dr. Beck maintained, a strong predisposing cause of puerperal fever; but he believed it would be a most false and dangerous conclusion if we were to generalize from this fact, and overlook the other and well-established modes by which puerperal fever was produced.

Dr. Graily Hewitt stated that the views he had on a former occasion enunciated on the value of pressure by means of the binder in the early stage of puerperal fever, and as to the extreme value of large doses of alcoholic stimulants at the same period, he still maintained. In a large number of cases, an account of which he hoped shortly to bring before the Society, he had tested their value.

Dr. Wynn Williams considered the disease in question to be identical with that met with during the progress of other diseases, but objected to the name pyæmia, believing it to be an accidental occurrence during the progress of a certain disease and not always present. He alluded to septicæmia, which was caused by the absorption into the system of the putrid emanations from decomposing animal matter. Pure pus

itself, when introduced into the circulation, was no more injurious than any other foreign material, as quicksilver. When scarlatina, erysipelas, and other allied diseases are present, the air is always contaminated with putrid emanations, and this, being brought in contact by vibrios generated in such an atmosphere, or other ways, readily sets up putrefaction in the discharges of the parturient woman, and these being retained, are very apt to infect the patient. If therefore in the discharges there is the least offensive smell, it is right at once to have recourse to some disinfectant injection, of which a solution of iodine is the best.

Dr. Braxton Hicks was inclined to join issue with Dr. Beck upon the statement that this preparation tended to prove the existence of open mouths into the placental cavity. He held it almost certain that such openings did not normally exist. In fact, Hunter had overlooked the existence of the delicate membrane which represented the wall of the vessel as it passed through the innermost layer of uterine tissue to ramify on the mucous surface opposed to the placenta. The injection Hunter employed burst through this membrane, and thus it appeared to lead into the placental cavity. This membrane would readily be destroyed under the conditions in which the uterus was placed in the case related. But he thought we should make a dangerous and retrograde step if we ceased to acknowledge the zymotic diseases as a cause of so-called puerperal fever. He considered that that disease may be divided into two great classes, with a few minor kinds—namely, that produced by decomposition of a clot, or the secretions in the uterus, thence called endogenetic; and that derived from zymotic poisons, of which scarlatina and erysipelas were the most common. He had in his own practice found that about three-fourths of the puerperal fever he saw was somehow mixed up with scarlatina. But in the lesser class, owing to the decomposition of clots, he thought very great benefit was to be derived from washing out the uterus in all cases where the discharges were offensive. Of disinfecting fluids he preferred the solution of permanganate of potass, because it showed when it had done its work. It was a curious fact that offensive lochia had been present in all cases but one of acute puerperal mania which he had seen.

Dr. Brunton said that with regard to the theory of the production of puerperal fever by zymotic poison, his experience was decidedly negative. He had attended several confinements in which not only was there scarlet fever in the house, but the children were actually lying ill in the room, and no bad symptom had occurred to the mother during her convalescence. He agreed with Dr. Beck to a considerable extent, especially as to the advantage of securing a firm contraction of the uterus after delivery.

Dr. Sansom could not agree with Dr. Tyler Smith that drugs were hopeless when once pyæmia had set in, and that "antiseptics were the feeblest of all feeble measures." He was glad to hear that the author of the paper had found the treatment by the sulphites successful. He believed Dr. Polli's introduction of the sulphites into therapeutics to be one of the most valuable additions to medical science. He did not agree, however, with Dr. Polli in his idea that the sulphites do not act upon the organized germs of disease, but upon the pabulum in which these germs are propagated. He believed that they acted directly as

septicides. Dr. Sansom stated that he had succeeded in producing a series of salts which combined the diffusibility of the sulphites with the potential efficacy of carbolic acid. These agents, the sulpho-carbolates, he would take an early opportunity of introducing to the notice of the profession.

The President, Dr. Hall Davis, agreed with the author in his view of the pathology of the case which he had brought before the Society. It was one of puerperal septicæmia due to the absorption into the blood of putrid matter from the uterus. But while admitting that perfect contraction of the uterus was most important, he could not consider the want of it as more than an occasional element in producing puerperal fever, which had many other sources. He was of opinion that cases of sporadic peritonitis should not be tabulated with cases of puerperal fever, as the former arose from ordinary causes of inflammation, while puerperal fever, whether accompanied or not by peritonitis, arose from the introduction of poison into the blood, either by the veins or the uterus, or by the lungs in inspiration. Contrary to the author, he was a strict believer in the contagion of puerperal fever immediately from patient to patient, and mediately through a third person. He was also convinced that other fevers, as typhus, scarlet fever, measles, and the emanations from hospital gangrene, had been prolific causes of puerperal fever. The taint conveyed from post-mortem examinations was another source of puerperal fever. This was well illustrated by the statistics of the Vienna Lying-in Hospital, where at one time, when the students passed directly from their dissections to the lying-in women, the mortality was one in every ten deliveries. When this arrangement was changed, the per-centage of deaths fell to one in seventy-four. Lying-in hospitals are no doubt a boon to poor women without homes, but one greatly mitigated by the fact that the mortality in them from all causes is rarely less than one in ninety or a hundred, and generally greater. The institution of cottage hospitals would no doubt greatly lessen that mortality, and he hoped some day to see them established. Out-door institutions giving home attendance, such as the Royal Maternity Charity, presented a much smaller mortality. In that Charity only one death in three hundred and fifty deliveries occurred. In conclusion, he could add from long experience his testimony to the great value of disinfecting injections of a proper temperature, timely resorted to, in preventing and arresting at its outset septicæmia of uterine origin in cases of putrescent lochia. But they came too late when delirium and other formidable symptoms had supervened.

Dr. Snow Beck, in reply, observed that lying-in women were no doubt liable to the various zymotic diseases; but when they did occur they presented the same essential characters as at other times. Nothing could be more erroneous than to term every fever and every disease which occurred after parturition "puerperal fever." Typhus fever, scarlet fever, &c., had no doubt again and again been introduced into lying-in hospitals, and decimated the inmates; but the destroying agent was still typhus fever, scarlet fever, &c. Suppose the transformation theory was adopted, it would lead to this: that pregnancy had the marvellous power of transforming every disease it might be associated with, not into so many other diseases, but all into one and the same disease—

puerperal fever. Such conclusions could only be admitted after the strongest proofs, and not on the mere assertion of any one. Puerperal fever had been correctly compared to surgical fever, seeing that they both arose from the same cause—purulent infection of the general system. In primiparæ the uterus often contracted very languidly, and when it did contract well, and expel both the fœtus and the placenta, it was far from uncommon for it to become gradually relaxed; and it was this relaxation which caused the sinuses to become so patent as to admit of purulent infection through them, and which required therefore to be so much guarded against. There could be little doubt that many diseases which had nothing to do with the pregnant state were included under the term "puerperal fever;" also that purulent infection of the general system through the pervious sinuses gave rise to one of the most dangerous affections following parturition. But whether these propositions included all the phenomena observed in puerperal fever or not, could only be determined by the careful clinical observation of facts, and equally careful examinations after death.

Art. 286.—*On Puerperal Fever in the British Lying-in Hospital, with Remarks on the Treatment of Puerperal Fever.**

By Graily Hewitt, M.D., F.R.C.P., Professor of Midwifery in University College, London, and Obstetric Physician to University College Hospital.

(*Medical Times and Gazette*, May 2.)

In this paper the author detailed his experience of puerperal fever in the British Lying-in Hospital, and laid before the Society certain views respecting the treatment of the disease there and elsewhere. The mortality in the hospital from all causes was in the first place alluded to. The statistics adduced extended from 1849 to 1866 inclusive. Married women only are admitted. The hospital now in existence was first used for patients in 1849. Of the four principal wards, two had a cubic capacity of 6552 feet each; the two others of 5616 feet each. These wards were tolerably isolated: ventilation by fireplaces and open windows. During the time the author held office there, the practice was to allot four patients, unless under extra pressure, to each ward. The in-patients were attended alternately by Dr. Murray and the author for periods of three months. During the seventeen years, 1849-1866, the total deliveries were 2438: the total maternal deaths 25. The percentage of deaths was therefore 1·02 from all causes. The causes of deaths were set down as follows:—Puerperal fever, or disease closely allied to it, 16; hæmorrhage, instrumental labours, chest affections complicating labour, and other diseases, 9. Of late years (1863-1866) the

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* Abstract of a paper read at a meeting of the Obstetrical Society of London, April 1.

number of deliveries had much increased, being nearly double those of previous years. In one year (1864) there were 199 deliveries without one death; in 1865 there were 5 deaths and 232 deliveries. On taking charge of the hospital in 1862, the author, in conjunction with Dr. Murray, reduced the number of patients in each ward from six to four. In the next place the author adduced particulars of all the cases of puerperal disease in which there appeared to him reason for designating the case as puerperal fever or closely allied to it, during a period of nine months, including three periods of three months each. Some of these were slight attacks, some more severe. Particular attention was directed to three patients in the same ward, attacked on December 28, 1864, with almost identical symptoms, one one day, and two two days after labour. A fourth in the same ward had severe sweatings. In three of these cases the attack gave way rapidly to treatment; the fourth was dangerously ill for many days, but ultimately recovered. In all, there were during these nine months twenty-three cases in which, in the author's opinion, the illness, often, it is true, temporary, could only be regarded as of the nature of puerperal fever. The identity of the symptoms in the slight and in the grave cases was the basis of this conclusion. For the most part, as initial symptoms, were noticed pain and tenderness in the uterine region, quick pulse, prostration of vital power, in almost all cases rigor, generally well marked; subsequently, if the attack did not give way, abdominal swelling, great prostration, hurried respiration, threatening of death. Herpes labialis occurred in several cases. One only of the twenty-three cases died; this patient was admitted, previous to setting in of labour, for great prostration from chest disease; she died of exhaustion two days after labour, the contents of the uterus being in a putrescent state. As to the nature of puerperal fever, the opinion was expressed that it is a form of pyæmia, the result of the introduction of a poisonous material of animal origin into the circulation, the point of entrance being generally the inner surface of the uterus or the vaginal surface. The poison may be introduced from without, or be the result of changes occurring within the uterus itself. Enlargement of the uterus had been noticed in many cases of the disease. On the question of the treatment of the disease, Dr. Graily Hewitt stated that the plan pursued by him was to enforce great cleanliness, and to give a liberal diet from the first in all cases, as preventive measures; and when labour was at all protracted, brandy was given during, as well as after, the labour; beef-tea, eggs, and milk at once, meat on the second day. When any symptom appeared of a suspicious character, the case was at once treated as one of puerperal fever, as follows:—The binder directed to be closely and accurately applied to prevent collection of lochia in uterus and facilitate its contraction; hot turpentine stupes to the abdomen, also to relieve the pain, for which purpose the tight binder also gave most universally good results; every four hours, thirty minims each of tincture of lavender, chloric ether, aromatic spirit of ammonia, and compound tincture of camphor; brandy, with water or egg, at once, in varying quantities—in a mild case, six to eight ounces per diem, but as much as two ounces every two hours was given when initial symptoms were very severe. Nourishment, in good quantities, very frequently, chiefly liquid; milk and eggs and beef-tea most relied

on. Every half-hour something was given in the worst cases; aperient medicines religiously avoided unless the rectum was obviously loaded. Experience had convinced the author of the bad effects of "brisk purgatives" in such cases. Later on, the same treatment was, if necessary, continued, with the addition of twenty to thirty minim doses of tincture of iron in some cases, and in some cases of turpentine enemas. Promptly and thus treated, the disease had almost invariably given way. Since the year 1862, the author had treated the disease boldly and thoroughly on the stimulant plan, having first observed its extraordinary effect in a woman who, being extremely ill, took every day for over a week at the rate of a bottle of brandy, besides nourishment in good quantities, and recovered. Some also of the cases now related were very bad ones. If the disease be allowed to go on unchecked for two or three days, this stimulant plan may fail, the important point being to treat the affection promptly. Intra-uterine antiseptic injection the author thought highly of, but they were not employed in these cases. Lastly, the conclusion drawn as to the question of the propriety of Lying-in Hospitals was, that they can only be safe when patients are isolated absolutely from each other—where, in fact, the conditions approximate to those present in home attendance.

Art. 287.—*On the Pathology of Peri-uterine Abscesses not associated with the Puerperal Condition.*

By Dr. M. Horwitz.

(*Petersburg. Med. Wochenschrift, Aerztliches Literaturblatt*, No. 1, 1868.)

Dr. Horwitz describes two forms of peri-uterine abscess.

The first includes all the abscesses which are to be considered as the results of a suppuration of the remaining products of a general peritonitis. A peritoneal exudation may occur in the interior of the pelvis, and in consequence of various accidents, flow downwards, and collect in the pelvic cavity. In this manner an abscess originates, which may stand in varying relation to the uterus, according to its position and to the greater or lesser share in the inflammatory processes taken by the appendages of the womb. These abscesses, considered as products of general peritonitis, may with perfect accuracy be designated as "intra-peritoneal;" the abscesses described by Goupel and Bernutz as "pelvic-peritoneal," manifestly fall into this category.

The following are the chief characteristic symptoms of an attack of peritonitis leading to the formation of an abscess. The active symptoms gradually disappear, and there remain only certain signs which point for the most part to lesion of the pelvic peritoneum, or the pelvic viscera. Associated with these also are symptoms of an affection of one or both ovaries. During the progress of these clinical phenomena the exudation increases more and more, and when it is not absorbed, passes into a state of suppuration and induces the formation of an abscess. These abscesses stand in more or less intimate relations with

the womb, although this organ is not to be considered as the starting point of the suppurative process, even when the inflammation of the abdominal lining has proceeded from the uterine serous coat.

To the second class of peri-uterine abscesses belong those which result from an inflammation of the intermuscular connective tissue of the womb. To this process Virchow gave the very suitable name of parametritis. Although Virchow's researches on this condition were limited to puerperal cases, Dr. Horwitz sees no reason why the results of his investigations should not also hold good when applied to the same pathological condition existing in women not in the puerperal state.

The production of this second class of abscesses takes place in the following manner :—

The intermuscular tissue commences to swell in consequence of a transudation of an albuminous fluid. This process takes place in the peri-uterine cellular tissue, in the broad ligaments, and frequently along the upper part of the vagina. The cellular tissue of the pelvis becomes involved in this morbid process, which, increasing as it extends, results in a considerable amount of exudation. In this manner tumours are formed of varying size, which are generally at first found at one of the lateral walls of the uterus, but at a later period become larger, and are seated in front of or behind the womb, frequently in the latter position.

The tumours just described are generally absorbed, but occasionally, in consequence of various causes, remain, and are developed into what may be properly called parametritic abscesses. Dr. Horwitz has come to the conclusion that parametritis occurs as frequently, if not more frequently, in women who are not in the puerperal state than in those who are. At least the parametritis is never so pure and uncomplicated in the latter as in the former. The processes leading to this lesion are in most instances excited by some traumatic cause—hence the name of "parametritis traumatica," a lesion which results very frequently in the production of a uterine abscess. All the conditions that are commonly considered as the chief cause of peritonitis and parametritis, play a part in the etiology of uterine abscess. Dr. Horwitz believes from the result of his experience, that traumatic peritonitis may be excited by passing a sound into the womb. Affections of the ovaries and chronic inflammation of these bodies, and also lesions of the Fallopian tubes, are of great import in the etiology of parametritis.

Symptomology.—The acute symptoms characterizing peritonitis and parametritis, are strong fever, severe pain in the abdomen, vomiting, contracted features, &c.; these gradually disappear, and leave behind a sensation of weight and pressure in the lower parts, and almost always a dragging in the lumbar region. The patients become so accustomed to these symptoms, particularly when they have continued for a very long time, that very little notice is taken of them. This first stage lasts much longer with parametritic than with intra-peritoneal abscesses.

The patient becomes uneasy about her condition for the first time when febrile disturbance, dysuria, and at a later period, painful defecation come on. The greatest inconvenience is caused by the dysuria, which may amount to complete retention of urine. As the formation of an abscess proceeds, there is increased febrile action, particularly when extensive portions of the abdominal lining are inflamed. The

disease then presents the same characters as intense peritonitis: a burning heat, small and accelerated pulse, acute pain in the abdominal region, a dry fissured tongue, &c., and the case may then end fatally, or may progress towards recovery. The collected pus makes its way into the neighbouring organs and is discharged by the rectum, the more frequent mode of exit, the vagina, and occasionally through the abdominal walls above Poupart's ligament. The patient feels much relieved immediately after the discharge of pus, and recovers quickly. Should the pus make its way into the cavity of the peritoneum, a fatal termination very soon ensues from peritonitis acutissima. Death may be caused through purulent absorption, as well as by peritonitis and exhaustion. In the first case the practitioner has to deal with a condition of ichorrhæmia.

The condition of the genitals differs according to the stage of the disease. At first the vagina is shortened and its posterior pouch occupied by a swelling, the tumour which exists in most instances on one side of the uterus and behind its vaginal portion is uneven and more or less tender.

By the large size of a retro-uterine tumour the womb is pressed so close to the symphysis, that the point of the finger can no longer be inserted between the two.

As suppuration proceeds, the form and size of the tumour alter; it becomes somewhat smaller, and at several places one can make out by careful examination an obscure fluctuation.

Dr. Horwitz considers the diagnosis of pelvic abscess to be no easy matter, as no one of the morbid symptoms presented by the affection can be accepted as pathognomonic. When it has in the first place been made out by careful examination that the case is one of a tumour in close relation with the uterus, it cannot at once be decided that this tumour will advance to suppuration or to the formation of an abscess. Here the history of the case may give some help. The practitioner learns at least so much as whether he has to deal with the results of a preceding general peritonitis or of parametritis. When this is settled, further observation will enable him to decide whether the tumour will become converted into an abscess. An abscess can be diagnosed with certainty only when fluctuation can be felt in the tumour, which is frequently so difficult to find out, that Dr. Horwitz thinks that great caution must be exercised in establishing a diagnosis.

Besides these direct difficulties in the diagnosis of intra-peritoneal and parametritic abscesses, much difficulty is presented by the differential diagnosis.

Dr. Horwitz considers that it is scarcely possible to confound a pelvic abscess with a tumour or cyst of the ovary. Cysts may indeed bring about symptoms of peritonitis, especially in acute cyst development, still by a close observation of the course of the disease may the deception be guarded against. A slighter consistence, greater mobility, and a regular continuous growth, point to an ovarian tumour; a firm, hard, and uneven condition, and immobility, are, on the other hand, symptoms that almost always insure the diagnosis of a parametritic exudation.

The prognosis of pelvic abscess is always doubtful. The patients

may sink from severe fever before the occurrence of suppuration. If the pus does not work its way outwards, or if medical assistance be not speedily afforded, the patient hangs in a state of very great danger; if the abscess should burst into the peritoneal cavity, death is inevitable. A more favourable prognosis can be made when the tumour rests directly behind the vaginal portion of the uterus, when the opening of the abscess into the vagina may be waited for or produced artificially without danger.

Treatment.—In cases of non-puerperal parametritis copious general bleedings are to be avoided, as the patients are much debilitated by such treatment, and if suppuration comes on in spite of it, recover very slowly. Local blood-letting at the most can be resorted to for the purpose of restricting the amount of exudation when this is on the increase. Cold applied in various ways, calomel, an occasional drastic purge, and neutral salts will prove of service. If absorption of the enclosed exudation cannot be brought about, suppuration should be accelerated. Quinine, acids, &c., should be given to counteract fever, and to support the patient's strength.

Warm vaginal douches are held by Dr. Horwitz to be the most suitable local applications. He places the woman on her back, and injects at every application three teacupfuls of water, the temperature of which is varied from 28° R. to 35° R. The dysuria and painful defecation require particular attention. A catheter should be frequently passed, and clysters given several times during the day, especially when the tumour presses upon the rectum. Whenever fluctuation can be distinctly felt at any spot, the pus is to be discharged at once, by using either a long bent trochar or the ordinary hysterotome. Puncturing by the vagina is to be preferred to that by the rectum, as it can be carried out more readily. The pus having been discharged, danger is over, and care is then to be taken that the opening does not become closed. This closure may be best prevented by the insertion of a piece of elastic catheter into the opening, and by frequent warm injections.

ART. 288.—*A Case of Retroversion of the Uterus, the posterior Wall of which was the seat of a large Mural Fibrous Tumour.*

By GEORGE PEPPER, M.D.

(*Pennsylvania Hospital Reports*, vol. i., 1868; and *American Journal of the Medical Sciences*, April.)

A widow, aged fifty years, who had suffered with procidentia uteri for eighteen months, after a hard day's work was suddenly seized with retroversion of the uterus, in the posterior wall of which was seated a large fibrous tumour. When Dr. Pepper saw her, twelve days subsequently, the bladder was greatly distended; the bowels were obstinately constipated; there was anorexia, with frequent nausea, and for the last day or two occasional vomiting; and her forces were rapidly

failing. The urine was drawn off, when a vaginal and rectal examination readily detected a dense, resisting, spheroidal mass, about the size of a fœtal head, which distended the recto-vaginal pouch, and completely filled the pelvic cavity. The os uteri could not be felt.

The bladder and rectum having been evacuated, and an anæsthetic administered, the author endeavoured to elevate the mass by means of a colpeurynter, forcibly distended with water. This measure proving unsuccessful, the woman was placed on her chest and knees, and by prolonged and forcible manipulations by the fingers introduced into the rectum and vagina, the tumour was slowly dislodged, and the uterus restored to its proper position. It was now evident that the morbid growth involved the entire posterior wall of the uterus from the cervix to the fundus. The os readily admitted a sound for several inches; but it was so much elevated that it could not be reached by a single finger in the vagina.

The after-treatment consisted in keeping the uterus elevated in the pelvis by a colpeurynter introduced into the vagina, for which a glass globe pessary was substituted at the expiration of twenty-four hours. Tannin and opium suppositories were employed to favour contraction of the dilated vagina and rectum, and she was placed on Basham's iron mixture, with a nutritious diet, and her bowels were kept regulated by mild aperients. At the end of two weeks the pessary was dispensed with, and there was no tendency to a return either of the displacement or of the pre-existing procidentia.

From his remarks upon this case, which was one of considerable practical interest, we learn that Dr. Pepper has been unable to find a full account of a single similar instance on record. Retroversion and impaction in the pelvis of the uterus, whether in the gravid condition or from the existence of sub-involution, is, however, of comparatively frequent occurrence.

Art. 289.—*Application of Iodoform to the Treatment of Cancer of the Uterus and Diseases of the Bladder and the Prostate.*

By M. Demarquay.

(*Bull. Gen. de Thérap.*, May 15, 1867; and *British and Foreign Medico-Chir. Review*, January, 1868.)

After describing the properties and mode of preparation of iodoform, and referring to the therapeutical use of this substance in England, M. Demarquay gives the results of his own experience of it as a local application. He has employed it in cancer of the uterus and in diseases of the bladder and prostate. He has applied it in the form of suppository with cacao butter, which is to be placed in the rectum in the case of diseases of the bladder or prostate, or in the vagina, in contact with the diseased mass, in the case of carcinoma or epithelioma of the uterus. A plug of cotton, placed at the entrance of the vagina, will prevent the substance from running out. When the cancer has

formed a cavity, the remedy must be placed in the midst of it, in order that the diseased structure may be well exposed to its action. Patients affected with inflammation of the prostate and the neck of the bladder reported themselves as somewhat improved by this plan of treatment, but M. Demarquay does not consider the results as altogether satisfactory. In cases, however, of ulcerated cancer of the neck of the womb, the improvement has been more decided. The application of iodoform has relieved pain, without disturbing the organic functions, and the improvement continued as long as this agent was employed. The same improvement was observed in some cases of ulcerated cancer of the rectum, but M. Demarquay observes that, in certain instances of inflamed uterine cancer, the suppositories produce so much pain that they were necessarily discontinued. The iodoform is therefore not applicable in all cases, but in suitable conditions it is very useful, being very superior to opium as a local sedative, the iodine it contains producing its constitutional effects, while the organic functions, and especially the digestive, are undisturbed.

Art. 290.—*On the Various Methods of Local Treatment in Cases of Uterine Hæmorrhage.*

By Professor F. Winckel, of Rostock.

(*Deutsche Klinik*, No. 1, 1868.)

Hæmorrhage from the unimpregnated uterus appears either as an excess of the ordinary menstruations—menorrhagia, or it comes on between the menstrual periods—metrorrhagia. The seat of the bleeding may be the lips of the uterus, the mucous membrane of the cervix uteri, or the cavity of the womb itself. In treating this affection, consideration should be taken not only of the very numerous causes that may give rise to it, but also its locality. Professor Winckel thinks that this is not always done, and that the local treatment of uterine hæmorrhage though rising in favour in recent times, is not so frequently applied as it ought to be. Drs. West, Veit, and Scanzoni speak so reservedly in their works concerning the direct application of styptics, that one can hardly venture to say that they are recommended. Scanzoni asserts that injections into the cavity of the uterus have been followed by accidents, and that they should be reserved only for certain exceptional cases. This view is not shared by Winckel, who has frequently administered these injections and has never observed a bad result after them. He has, however, been frequently convinced that they are in some cases unavailable, in others unsuccessful. The defective action of uterine injections in one case induced Winckel to have recourse to a method, a description of which is given in his contribution after a short preliminary review of the various plans of arresting uterine hæmorrhage.

a. Injections into the vagina.—The agents which are used in this manner as styptics are very numerous, and can be arranged according to the intensity of their action in the following order: Decoction of oak

bark (ʒss to ʒvj), aluminated copper, sulphate of copper, alum, pyroligneous acid, matico, tannin, sulphate of zinc, and others. These are prescribed as solutions of from two to three grains in the ounce, of which from one to three tablespoonfuls are mixed with the injection; or many of them may be added to the injected fluid in powder. With these vaginal injections the patient must be so placed that the fluid may not flow away from the vagina too quickly.

This manner of arresting hæmorrhage is adapted for cases of menorhagia from erosions of the os and cervix uteri, for cancroid and carcinoma of the vaginal portion, since under these circumstances the bleeding spot actually lies in the vagina. Injections have this disadvantage, that the perfectly sound parts of the vagina are also acted upon by the styptic agent, which cannot for this reason be used in a very strong solution. Their action is not always successful in arresting the bleeding, and when this comes from the interior of the womb, they contribute but very little towards diminishing it.

b. The above-mentioned agents act more powerfully when they are applied either as powder or in solution directly and by means of a speculum to the bleeding spot.

In this plan of treatment Winckel mentions two agents possessed of especial efficacy—a neutral solution of sesquichloride of iron and the actual cautery. The action of nitrate of silver in the solid form is also intense, though not to be compared with that of the two first. These two are adapted for hæmorrhage from cancroid and carcinoma, and their use should be associated with that of astringent injections and of plugs moistened with some styptic solution, and passed into the vagina every evening. The actual cautery is indicated in cases of very vascular papillar erosions, and should be applied as a white hot button of the size of a shilling and fixed on the end of an iron stem. The pain caused by the application of white-heat in this manner is not great even in sensitive patients, and therefore the administration of chloroform can be dispensed with.

c. Plugging the vagina, either with Braun's vaginal dilator, or with plugs of charpie and wadding containing some astringent fluid, is in some cases by all means worthy of recommendation. These plugs may be applied with benefit in hæmorrhage from cancroid and cancerous ulcers, and are serviceable in arresting the serious arterial hæmorrhage, occurring after the removal of new formations from the lips of the os uteri, and which can be stopped by no other means than vaginal plugging. Winckel refers to a case in which he removed, in January, 1865, a glandular polypus as large as an apple from the anterior lip of the os; there was great arterial hæmorrhage, which could not be arrested by direct application of styptics to the bleeding spot, as the reflecting surface of the speculum was coloured by the streaming blood; the bleeding was not arrested before the whole vagina had been tightly plugged and the wounded surface firmly pressed upon by plugs of wadding saturated with liquor ferri sesquichloridi.

d. The introduction of pencils containing alum, tannin, sulphate of zinc, or sesquichloride of iron.—These pencils, suggested by Becquerel, are made up of half a drachm of gum tragacanth, from fifteen grains to a scruple of sugar, and of from two to five grains of the styptic agent.

The pencil when introduced readily melts, and the action of the styptic is quickly excited on the bleeding surface. The action of these pencils is more intense than that of solutions containing the same quantity of the styptic agent which are used for injection, since the remedial agent contained in the pencil can act longer and more regularly on all the surfaces that are diseased. Especially deserving of recommendation is the pencil made up of liquor ferri sesquichlor. neut., gr. x—xv; gummi tragac., ʒss.; sacch. alb. ℈ij., in cases of hæmorrhage from cancerous ulcerations of the uterus, when it may be introduced daily or every second or third day as high in the vagina as possible, and maintained there by a plug of wadding. The pencil is also very beneficial in hæmorrhage from the neck of the womb. The plug is removed in from twelve to twenty-four hours, and the dissolved gum tragacanth comes away gradually or may be removed by astringent injections.

With regard to the frequent and serious bleedings that proceed from the interior of the womb, Winckel states that the agents and methods just described can be applied with as much safety to the inner surface of the organ, and ought to be so used whenever their introduction into the vagina is followed too slowly or not at all by useful results. In severe hæmorrhage from new formations, particularly myomata within the uterus, too much time is frequently wasted in the application of astringents to the vagina, and the bleeding is allowed to exist too long, because the practitioner shrinks from carrying his arresting agent directly into the uterus. The following are some of the methods of arresting hæmorrhage from the interior of the uterus, which Winckel holds can be used without danger so long as they are applied properly.

e. Injections into the uterus.—The instrument used for this purpose is Braun's syringe, or a similar instrument capable of holding twice or thrice the amount of fluid. The latter instrument is used by Winckel when the uterus is large and its cavity dilated. The agents used are alum (gr. ij—v to ʒj), tannic acid (gr. ij—v to ʒv), and liquor ferri sesquichloridi neutralisatus either with water or undiluted. Care is to be taken that the injection be not too cold, and that the os uteri be sufficiently open to allow of a free return of the fluid; the injection should be administered slowly. Winckel states that he has carried out these intra-uterine injections so frequently, and with so many patients and under so many morbid conditions, without ever observing any considerable reaction after them, that he feels himself obliged to declare that they are, when administered cautiously, free from danger. Three cases of uterine hæmorrhage on patients of an hæmorrhagic diathesis are alluded to, in which uterine injections were used with great benefit.

f. Plugging the uterus with laminaria and gentian.—Winckel gives the history of two cases of excessive uterine hæmorrhage, in one of which the patient was of an hæmorrhagic diathesis, and in the other there was a large myomatous tumour within the womb. Pieces of laminaria were introduced within the cervix in the first case, and gentian in the second. In the first case the primary result was very satisfactory, and the hæmorrhage was arrested, but after a time it returned, in consequence of the lint slipping away from the dilated os and cervix. Injections of liquor ferri sesquichloridi were then applied to the interior

of the uterus, and the bleeding was then completely arrested. In the second case the hæmorrhage returned after the administration of the first local remedy, which consisted in injections of sesquichloride of iron, but subsequently ceased after the introduction of a piece of gentian root into the uterus.

g. The introduction into the uterus of tragacanth pencils containing from ten to fifteen minims of liquor ferri sesquichloridi.—Winckel has applied this means in two cases. In the first case there seemed to be considerable swelling and hyperæmia of the mucous membrane of the uterus, and in the second there was a tumour (myoma) in the posterior wall of the womb. In both instances the bleeding was almost completely arrested after the introduction of a single pencil.

h. Winckel speaks very favourably of the good results derived from the introduction into the uterus of pieces of gentian which had been previously soaked in liquor ferri sesquichloridi for one, two, or three hours. By this means the diseased and bleeding surface is subjected both to compression and to the action of a styptic agent.

Cases of hæmorrhage may occur in which none of the above described methods of treatment are applicable. A case of this kind was lately under the notice of Prof. Winckel, in which the entrance to the vagina was so narrow, and the os uteri placed so far backward that it was only with the greatest difficulty that Braun's syringe could be introduced into the external os, and the injections of a solution of sesquichloride of iron were followed by no good result. The introduction of laminaria, gentian, or tragacanth pencils could not even be considered. In cases of this kind the practitioner must make shift with the use of ice-bags placed over the abdomen, the application of cold lotions, and with plugging the vagina. Fortunately such cases are very rare, and Prof. Winckel has met with only one.

Art. 291.—*On the Therapeutics of Flexions of the Uterus.*

By Professor Olshausen.

(*Monatsschrift f. Geburtskunde*, November, 1867; *Schmidt's Jahrbücher*, No. 3, 1868.)

The important question whether flexion of the uterus itself should be the object of treatment, or, on the other hand, its complications and consequences, still remains undecided; at the present day most German practitioners hold that the direct treatment of the flexion is useless and even dangerous. Quite recently, however, some German authors have expressed themselves in favour of treating uterine flexion by the old method of mechanical applications, whilst in England this kind of treatment has already been widely extended by Simpson.

Professor Olshausen holds that the direct treatment of the flexion is, in the majority of cases, the chief indication, not only because the bending of the uterus is the primary lesion, but also because the principal afflictions of the patient depend on the flexion itself and not on its complicatory dysmenorrhœa, the chief cause of complaint of the afflicted patient, particularly in cases of anteflexion, is generally purely mechanical; a fact proved by the remission of pain after profuse

hæmorrhage, and above all, by the influence of mechanical treatment. That dysmenorrhœa may be intensified by attacks of metritis, no one will deny. Moreover, the obstinate constipation, the strangury, the pains in the back, and the abnormal sensations in the lower limbs, depend more upon the flexion than upon the complications. Less importance is to be attributed to the symptom of profuse menstrual hæmorrhage, as this is chiefly the result of catarrhal softening of the uterine mucous membrane. Whether the cardialgia so frequently observed be caused by direct reflexion from the bending in the uterus, or whether it depend rather upon the obstruction, cannot be decided without difficulty; hyperæsthesia along other nervous tracks seems to be removed by rectification of the flexion, as if it were the direct result of this lesion.

In explaining his point of view of the treatment in cases of uterine flexion, Professor Olshausen declares that he agrees in principle with E. Martin and Hildebrandt, without accepting entirely their views; he is a supporter of mechanical treatment when applied to suitable cases. He considers that inflammatory processes in the uterus and its appendages are important contra-indications in instrumental treatment. It is often very difficult to determine the stage of the metritic processes, and whether the presence of instruments can be endured. Olshausen uses in doubtful cases the uterine sound, which is sometimes introduced and allowed to remain for a short time in order to try the reaction of the uterus. After inflammatory complications instrumental treatment is frequently forbidden by considerable relaxation of the uterine walls; hence in this condition the patient is liable to be exposed to the danger of profuse bleeding. Profuse menstrual hæmorrhage is not in itself alone a contradiction to the use of the pessary, nor even less so is the frequently associated uterine catarrh and a moderate mucous secretion. The more insignificant are the disturbances, particularly those of dysmenorrhœa, so much the less is the indication for mechanical treatment, if the physician has not in view the removal of sterility; and finally, the indication is lessened by the increasing duration of the flexion.

The average cases of anteflexion are better adapted for instrumental treatment than cases of retroflexion, in the first place because Simpson's supporter can be worn with the former, whilst with the latter this instrument falls down, since the point of support at the posterior wall of the vagina is wanting; for cases of retroflexion, more complicated appliances are required.

In addition, retroflexion is associated with considerable laxity of the uterus, particularly of its mucous membrane, a condition which gives rise to profuse hæmorrhage; this laxity of the uterine parenchyma, which plays a great part in the region of retroflexion, has less signification in cases of anteflexion. Retroflexion in the majority of instances comes on after child-bed, as the uterus during the first few months after delivery often presents a remarkable softness, in consequence of which the organ is not puckered at a single spot but undergoes an extensive bending along its whole length. Anteflexion, on the other hand, seldom occurs directly after child-bed, and in the majority of cases the parenchyma of the uterus is sound and often remarkably firm. Anteflexions of a uterus with firm walls may be etiologically divided into

two groups, one in which peritonitic adhesions can be made out, and in which, according to Virchow, the ends of the uterus are fixed and its tissue between these points is thrust from before backwards by the bladder, in a second, in which adhesions cannot be determined.

Those forms of anteflexion which occur in connexion with a loose-walled, puerperal uterus, are not generally very severe, and of all flexions present the most favourable prognosis in relation to a radical cure. The treatment of these as well as of recent puerperal retroflexions should be both locally and generally quite a tonic one. After cold vaginal douches, sea-bathing, preparations of iron, &c., have been used most effectually, the position of the uterus may be restored by introduction of the sound, which is to be repeated when necessary. In these cases a single or repeated use of the sound may bring about a radical cure of the flexion, more frequently, however, with anteflexion than with retroflexion.

Excluding recent cases of the above nature, in which the atony of the uterine walls presents very important indications for the treatment, are flexions and the disturbances caused by them, which cannot be cured without the application of mechanical means. In these the sound is of no avail, except it be used in certain cases as an instrument to facilitate the passage of the pessary, which cannot be introduced without difficulty. Furthermore, it often proves by the immediate relief of many symptoms, that the greater part of these are in direct dependence on the flexion, and may, when other mechanical means are not required, be used as a palliative, especially for the purpose of assuaging the intolerable dysmenorrhœa.

Two fully-reported cases serve to prove the dependence of dysmenorrhœa upon the flexion itself, although exceptional cases of severe flexion and version may occur without dysmenorrhœa. Professor Olshausen in nearly every case of anteflexion uses a single Simpson's supporter furnished with a knob about two and a half centimetres in diameter, and with a handle. The knob is made of cork and the handle of horn, and both are covered with wax. The length of the instrument must in every case correspond perfectly to the interior of the uterus, and the length of the handle must be one and a half centimetres shorter than this cavity, because the knob is often pressed forcibly through the wall of the vagina against the os uteri, and with excessive softness of the vaginal portion must often shorten considerably the uterine cavity. The application of instruments needs no previously long-continued use of the sound, unless excessive bending and rigidity of the uterus render the first introduction of a straight instrument difficult or impossible. For the purpose of learning the direction of the cervical canal, Olshausen, immediately before the first introduction of the uterine supporter, passes a sound, and allows this in difficult cases to remain for a few minutes; the supporter too is introduced with the greatest readiness when it is placed upon a bent steel guiding sound.

Art. 292.—*Prolapsus of the Uterus and Rectum.*

Under the care of Professor Gosselin at La Charité.

(*The Lancet*, February 22.)

Both the uterus and rectum protruded to a considerable extent. The rectum measured five or six centimetres. M. Gosselin, confining his intervention for the time being to the rectum, reduced the tumour by making a semilunar incision through the skin and sphincter ani towards the coccyx. The parts were then brought together and united by means of a twisted suture with metallic threads.

Art. 293.—*A Contribution to the Treatment of Retroversion of the Uterus.*

By Ephraim Cutler, M.D., of Boston.

(*The Boston Medical and Surgical Journal*, No. 8, 1868.)

"For a period of more than two years a case of retroversion of the uterus annoyed me exceedingly. The patient was a married woman, about forty years of age, native of Maine, mother of seven children, and occupying a position in the middle class of society. She complained of disturbance of the nervous system, sometimes approaching insanity. There were great prostration, irritability, and uneasiness; at times numbness of the extremities and limbs, bearing-down pains in the back, dysmenorrhœa, inability to walk, to lift weights, and to go up-stairs without increasing the difficulty.

"A physical examination, obtained after much urging and delays, showed the uterus to be completely retroverted. A Simpson's sound could be introduced into the womb completely only when its concavity looked backward, and the handle was brought forward towards the pubis. The length of the uterus was normal. The os was rather rugose and patulous. There was no flexion. The treatment consisted in replacing the womb with the sound, and in endeavouring to keep it *in situ* by pessaries of various shapes and materials, which were changed as often as they failed. When I had exhausted all the resources that I was acquainted with, and when the patient was just on the point of giving up all treatment in sorrow and despair, a contrivance was hit upon, which is here exhibited, and which has kept the uterus in place ever since, with exceptions which will be mentioned.

"The principle of pessaries in uterine displacements has long been announced to be an extension of the vagina in its long axis, by restoring the tone and tension of the tube transversely, to prevent the uterus from falling down. It is not part of the principle to distend the vagina transversely, as is done by most internal pessaries. This distension rather weakens the tone of the vagina, by putting it constantly on the stretch. Indeed in the case of retroversion quoted, the indications of treatment were:—

"1st. To replace the womb by the sound. This was done by putting the patient on her hands and knees, the head depressed, and the hips elevated; then introducing the sound, concavity backward, to move the handle backward, at the same time rotating it upon its long axis until the concavity looked forward, and the longitudinal axis of the sound corresponded with that of the vagina.

"2nd. To keep the uterus *in situ naturali* by introducing the pessary, which by its peculiar form extends the vagina in the direction of its long axis, without distending in the direction of its transverse axis, and also without resting upon any point within the vagina, but upon an elastic support, thus imitating the natural guys of the uterus."

Dr. Cutler's pessary is made of hard India-rubber, curved antero-posteriorly to correspond with the curved axis of the vagina. The uterine extremity is a hoop, bent backward quite enough to receive the convexity of the posterior surface of the neck of the womb, and accurately fit the posterior vaginal *cul-de-sac*. Towards the other end of the pessary, the sides of the loop become fused into one piece, which extends out of the vulva and bends directly backwards into a hook, thus embracing the posterior fourchette and the perineum. To the fine extremity of the hook is attached a piece of India-rubber tubing, about six inches in length and one quarter of an inch in diameter. This tubing lies in the furrow between the buttocks, and is provided at its free extremity with a loop, to which is attached either a tape or band, which surrounds the pelvis of the patient and completes the apparatus. The features peculiar to this instrument are:—*The single posterior support* of an elastic India-rubber tube, the hooked termination, and the full antero-posterior curve. The remaining features of this pessary have been made known to the profession by Professor Storer, jun., introduced by him from London. The pessary is supported by two parallel bands extending from the pubis in front to the sacrum behind. Thus this pessary has two points of support; Dr. Cutler's modification, consists essentially in reducing the points of support to *one* only, and that from behind solely.

The advantage of the modification will be apparent when it is considered that the apparatus is simple, and that when once introduced and properly fitted, it cannot easily become deranged. The furrow between the buttocks prevents the lateral motion of the tube of support. The attachment to the pelvic band prevents all downward displacement, except that which is immediately restored by the contractility of the suspending medium. The only point of pressure contact within the vagina being at the posterior vaginal *cul-de-sac*, the concave surface of the smooth hamular process fits the perineum without chafing, and the hook simply lies in the vaginal orifice. If it presses upon the posterior fourchette so as to imbed itself, the instrument is not a fit, and the suspending cord should be loosed, or a new instrument produced. If it impinges too forcibly upon the urethra, the cord should be tightened. When properly adjusted, the pessary cannot tip backward, as it will come in contact with the promontory of the sacrum. It cannot go forwards, as it is held by the uterus. Indeed, without being rigid and vice-like, it holds the vagina in its natural axis and curve, and (another most important feature) allows of the normal

contraction of the transverse fibres of the vagina. The single attachment of the support behind enables the patient to micturate without disturbing the apparatus, which cannot be done with the double attachment.

Furthermore, the point of suspension is on a good foundation. The posterior surface of the pelvis, made of bone superficially covered with integument, is smooth and fixed. It is not like the changeable surface of the anterior portion of the abdominal trunk, which is made up mainly of soft tissues on a base of yielding intestines that have a peristaltic motion, besides a continual change of contents in character, quantity, and quality. Whenever the supporter does move, it is downwards, away from the perineum.

Dr. Cutler, influenced by the fact of displacement occurring occasionally during defæcation when the tubing is brought forward between the thighs and the pessary is also brought forward so as to clear the anus, has contrived a joint in the hook, in such a manner as to allow the extremity to rotate in a circle, the circumference of which is described by the end of the hook, and the centre of which is the axis of the middle of the hook.

Art. 294.—*A Case of Cystic Disease of Kidney simulating Ovarian Disease.**

By Henry Cooper Rose, M.D., F.L.S.

(*Medical Times and Gazette*, May 30.)

C. R., a rather delicately-constituted young lady, discovered a tumour about the size of an orange in the situation of the left ovary when at the age of thirteen. About this period she menstruated for the first time, and continued to do so at intervals of three or four months for some years. She suffered also from hæmaturia occasionally, but in the early stages never mentioned the fact. She came under the author's care in January, 1856. The tumour at that time appeared solid, no fluctuation being perceptible. The tumour gradually increased until July 22, 1865, when it extended from the pubes and Poupart's ligament on the left side to the ribs, and reached beyond the median line of the abdomen considerably. Fluctuation was now very perceptible; and, equidistant between the crest of ilium, umbilicus, and ribs, a prominent point presented itself, over which the skin was thin, livid, and very tense. Through this point Dr. Rose introduced a trocar, and evacuated seven pints of sanguineous clotty fluid. A large mass was still felt in the abdomen, apparently partly solid and partly multilocular. She remained very faint and low for some time, but in the course of about two years she had so far recovered as to be able to walk two or three miles, or play croquet for three or four hours at a time. The fistulous opening made by the trocar remained patent during the remainder of her life, giving vent to semi-purulent fetid fluid, varying in quantity from one

* Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society, May 12.

ounce to several ounces daily. No hæmaturia or pain took place after the tapping, and the tumour gradually became reduced to the size of a man's fist. About August, 1867, anasarca of the legs took place, and albumen was abundant in the urine. Nausea, sickness, and headache supervened, and she gradually sank on October 29, 1867, retaining consciousness to the last hour or so. Many professional opinions were obtained on the case, and all were led to diagnose ovarian disease with complication. The post-mortem examination revealed a large cystic kidney on the left side, with total destruction of the secreting portion; and the right kidney was undergoing yellow degeneration, and was enlarged to twice its normal size. The chief points of interest in the case arise from the fact of its exhibiting a series of symptoms perfectly compatible with the belief in its ovarian origin; its existence for so long a period (fifteen years); the absence of elements of urine in the fluid evacuated by the tumour; and the ultimate relief afforded by the puncture through the abdominal walls of so large a cyst, together with the comparative freedom from suffering and inconvenience, notwithstanding the large amount of disease found after death.

Dr. Symes Thompson narrated a somewhat similar case which had been under the care of Dr. Todd. A woman, aged thirty-four, with a distended and fluctuating abdomen, came into hospital. There was a central tumour which had first been on the left side. Dr. A. Farre thought it was not ovarian from the condition of the uterus; Dr. Todd that it was a multilocular cystic enlargement of the ovary. On dissection, the uterus and ovaries were found to be healthy, whilst the swelling was found to proceed from the left kidney, which it had superseded. It weighed, without fluid, 40 lbs.

In reply to a question from Dr. Hare, it was stated that the supra-renal capsules were not much enlarged. Dr. Hare then proceeded to state that eighteen years ago he saw a cystic swelling in a male subject and thought it renal. He again saw him with Dr. Bright, when it was much enlarged and divided into two parts by a resonant band. Still it moved as one mass. The resonant band was the colon, and he thought its presence sufficed to diagnose such tumours from enlargements of the spleen. He also exhibited a number of excellent drawings illustrating this condition. Sometimes the enlarged supra-renal capsule gave rise to some difficulty. He thought in the case narrated that the persistent hæmaturia would have excited attention.

Dr. S. Thompson remarked that the colon in the case narrated by him was in front of the tumour, but completely flattened.

Dr. Hare said that, even so, air and fæces might be noticed passing downwards.

Mr. Spencer Wells said there were occasional exceptions to the rule that large tumours of the abdomen with intestine crossing them in front, were renal and not ovarian. Dr. Keith of Edinburgh (who was then present) had seen two cases, and he (Mr. Wells) had seen at least six, where ovarian tumours were crossed in front by adhering intestine. It might not be detected at one examination, because the intestine might be empty; but patients were generally conscious of the passage of air and fluid, and a peculiar cord-like roll was produced when the intestine contracted under the pressure of the hand. If doubt were still felt, a

long tube might be passed up the rectum, and air blown in from bellows. In this way the intestine might be inflated, and tympanitic resonance became manifest. The diagnosis in the case brought forward by Dr. Rose was unusually difficult, because it was supposed that an ovarian cyst was spontaneously emptying itself through the bladder; and when it became necessary to tap the cyst, the fluid evacuated contained none of the constituents of the urine nor anything confirming the suspicion that the cyst might be renal. So with some of the cases which he (Mr. Wells) had published in the *Dublin Journal*. The urine was quite normal because the diseased kidney had ceased to secrete, and the other kidney was healthy. In a large tumour, weighing between thirty and forty pounds, which he had brought before the Pathological Society, with several renal calculi from the pelvis of the kidney, the tumour had filled the whole abdomen and descended into the pelvis. He had seen other tumours of one kidney which had extended across to the opposite side of the abdomen, and also downwards into the pelvis. In one case which he had seen recently with Mr. Keyser, the tumour was so distinctly not pelvic in its early stage that a very distinguished physician said it could not be ovarian. But a year later the same physician wondered that he could ever have doubted that it was ovarian, because it seemed so closely connected with the uterus. In this case the cyst was tapped, and a very competent observer, finding colloid bodies and epithelium in the fluid, expressed a strong opinion that it was ovarian. On making an exploratory incision he (Mr. Wells) found a large renal cyst, emptied it, sewed the opening in the cyst wall and abdominal wall together, introduced a drainage tube, and the result was a perfect cure. So in one of his published cases tapping and drainage led to the complete recovery of a patient with a renal cyst. Simple tapping seemed to be of little use, while tapping and drainage offered very encouraging promise of success in cases otherwise incurable.

ART. 295.—*Case of Inversion of the Uterus, reduced after Eighteen Months' Duration; with a New Mode of Procedure to be adopted as a last Resort, in any Case where the Reduction cannot be accomplished.*

By THOMAS ADDIS EMMET, M.D., Surgeon in charge of the New York State Woman's Hospital.

(*American Journal of Medical Sciences*, January, 1868.)

The following is the "new mode of procedure" as adopted by Dr. Emmet:—

"A table about three feet high should be used, the patient etherized and placed on the back. Introduce the entire hand into the vagina, and the fingers within the cervix, so as to enable the prolapsed portion with the fundus to lie in the palm of the hand. The canal is to be dilated by rapidly expanding the fingers until the seat of inversion has been reached. At this point grasp firmly the portion of the body just below the seat of inversion, push it steadily up, while counter-pressure is made by the other hand over the abdomen, making the attempt to

roll out the parts by sliding the parietes over the border of the ring, at the instant that the fingers are expanded within the uterine canal to their utmost. In this order the procedure must be conducted until the fundus can be passed entirely within the cervix. It now becomes a matter of perseverance on the part of the operator, so long as the strength of the patient will safely admit of a continuation of the effort. As the fundus advances within the canal, the fingers cannot be separated to the same extent, and the effort must be confined chiefly to the upward pressure of the parts grasped by them as near the seat of inversion as possible, while using at the same time the other hand above to slide the abdominal wall over the slowly dilating ring. There is still, however, a dilating force exerted by wedging the fingers between the prolapsed portion and the sides of the canal; for in proportion as the uterine canal in this condition is enlarged in its lateral diameter, must the reduction be advanced by shortening the opposite one. It is well also occasionally, at this stage, to alternate the pressure so that it shall bear to first one side and then to the other, instead of continuing the attempt to press the mass directly through always in the same direction. Sometimes it should be a hand-to-hand motion, as in delivery of the head by forceps. On the same principle, the vagina, for a moment or two at a time, should be placed on the stretch by making steady pressure in the direction of the promontory of the sacrum. By changing thus the direction of pressure in the last stage, a portion will sometimes suddenly slip up, when a moment before the parts have seemed immovable, from being wedged in such close apposition. By resting the back of the hand in the hollow of the sacrum, so as to turn the organ up against the abdominal wall above the pubes, the hand of the operator is placed in a less constrained position, while at the same time the uterus is so steadied that the counter-pressure to be exerted by the other hand is maintained to the best advantage. Towards the close of the operation, the advance of the fundus is hastened beyond question by a rapid change of fresh assistants, so that the force may be as nearly a continuous one as possible, and not allowed to flag from the fatigue which must follow the prolonged efforts of any one person. This plan was suggested by Professor Elliot in my first case, and my experience since has fully confirmed its great importance. Too much must not be attempted at first, for until the vagina has become somewhat dilated, and the hand of the operator accustomed to the manipulation, his efforts in the beginning will be to a great extent lost, in consequence of his hand becoming almost powerless from cramp."

Dr. Emmet is satisfied that, without regard to the duration of the operation, we now possess the means of overcoming a condition which but recently was considered by the profession as almost hopeless.

Art. 296.—*A Case of Retroversion of the Impregnated Uterus.*

By David L. Philip, M.D., C.M., Coroner for the County of Oxford, &c., Plattsville, Ontario.

(*Canada Medical Journal*, November, 1867.)

The following case is placed on record by Dr. Philip :—

"In October last I was requested to visit Mrs. W., about four months advanced in pregnancy, and who had enjoyed excellent health up to within four days, when on going about her ordinary household duties 'she felt something give way;' she felt no great pain at the time, but on attempting to void her urine, she found she was unable; she strained violently, applied hot fomentations, and used some domestic remedies for the water, but without any effect. She says a little urine comes away from her now (Stillicidium urinæ) in drippings. Her bowels have been constipated; passes some slight watery stools and flatus; her sufferings during the past twelve hours are distressing; she feels as if her belly would burst, and earnestly entreats to be relieved. At present the pulse is quick with high fever, flushed countenance and hurried respiration; on examining the abdomen, there is a large tumour extending to the umbilicus and reaching almost from one ilium to the other, very painful on the slightest pressure. Suspecting the nature of the case, I requested to make a vaginal examination, and on introducing my finger, I found a tumour occupying the cavity of the pelvis. I could not reach the mouth of the uterus, and the fundus of this organ was firmly wedged low down in the cavity of the sacrum. I introduced a gum-elastic catheter with some difficulty, and drew off (by measurement) eight pints of fetid ammoniacal urine. Having accomplished this, and after giving a stimulating clyster, which brought away a considerable quantity of feculent matter, I determined if possible on immediately reducing the retroverted womb. Placing her in the usual obstetric posture, I passed the fingers of my right hand into the vagina, over the body and fundus of the womb, and with my thumb inserted into the rectum, which placed the retroverted organ favourable for reduction, I made an increasing amount of pressure for about fifteen minutes, but failed to move it in the slightest degree, so tightly was it impacted. The patient being somewhat discouraged at the attempt to dislodge it being unsuccessful, I allowed her an interval of rest, as she was very much exhausted, and gave her a glass of wine and water. I resolved if possible to reduce it, believing that delay would only increase the difficulty, and that there was no likelihood that the womb would right itself by drawing off the water regularly, and as recommended by Denman, Hunter, and others. In my second attempt, therefore, I determined to use as much force as was compatible with safety. Placing her upon her knees and elbows, with the pelvis higher than the abdomen, in order to remove the pressure of the viscera, and having oiled my right hand, I now passed it with as little severe pressure as possible entirely into the rectum, which was gradually accomplished,

and with much less suffering to the patient and difficulty to myself than I could have imagined. I now got a bearing upon the fundus, and after using continued and strong pressure for about twenty minutes, I moved it somewhat. I was then enabled with a finger of my left hand to grasp the cervix and draw the os downwards, whilst at the same time I pushed the fundus upwards, which was managed with a good deal of difficulty. Some delay was experienced in getting it over the promontory of the sacrum, but in about half an hour from the time I commenced it passed out of its tightly impacted position in the hollow of that bone. She was ordered to keep her bed for a fortnight, and recovered without a bad symptom. I attended her in her subsequent confinement, when she was safely delivered."

Art. 297.—*Treatment of Cervical Metritis.*

By T. Gaillard Thomas, M.D., Professor of Obstetrics and the Diseases of Women and Children in the College of Physicians and Surgeons, New York, &c.

(*Treatise on the Diseases of Women.*)

The following is a *résumé* of the treatment of this affection, recommended by Dr. Gaillard Thomas in his valuable work on the *Diseases of Women* :—

1st. *Rest* as absolute as the health of the patient will permit; avoidance of sexual intercourse and muscular efforts; removal of weight from fundus.

2nd. *General regimen*, mild cathartics, baths, plain but nutritious food, avoidance of stimulants and spices, exposure to pure, fresh air without fatigue.

3rd. *Depletion* by leeches, cups, or scarification.

4th. *Emollient and sedative applications* by vaginal injections, medicated and simple, or by suppositories.

5th. *Alteratives.*—Applications of iodine, iron, nitrate of silver, &c. &c.

6th. *Counter-irritation* by blisters, warm iron, actual cautery, potassa fusa.

Art. 298.—*Case of Fæcal Fistula following Ovariotomy.*

By Thomas Keith, F.R.C.S. Edin.

(*Glasgow Medical Journal*, December, 1867.)

The following case is related by Mr. Keith :—

"On the 19th of December, 1865, I removed from Miss R., aged thirty-two, from Glasgow, a multilocular tumour of the left ovary, weighing nineteen pounds. The pedicle, which was long, was secured by a clamp. The right ovary was also enlarged and diseased. Its

pedicle, being extremely short, could not be brought outside. It was transfixed and tied with silk ligatures, the ends being cut short. One of these did not hold, and after tying two vessels, there was so much oozing that it was necessary to transfix again and tie close to the uterus. There were no unfavourable symptoms, and she returned to Glasgow twenty-eight days after operation, the wound being then quite healed, and everything in the case promising a speedy return to health.

"For a fortnight after going home she was quite well. She then began to have pain and irritation in the pelvis, and in a few weeks there was a discharge of matter from the rectum. There were similar attacks of pain, followed by discharge, keeping her a sort of invalid during the summer, and she was not able to walk more than two miles at a time. I saw her in September. She was then thin, but able to go about, and there was to be felt slight induration of the cellular tissue in the right side of the pelvis. I saw her again, in December, with Dr. Wilson, and opened a large pelvic abscess, which was pointing a little above Poupart's ligament. Some air was pressed out along with very fetid sloughs of cellular tissue. For some days there was profuse discharge, but she rapidly gained strength; and in January, 1867, the opening was almost closed—a drop or two of pus only being occasionally pressed out. Her health was then very good, and it was hoped that she would have no further inconvenience.

"Things remained in this state—the wound almost closed—till the beginning of March, when some blood came from the opening, followed by a little air. This continued at intervals, and was accompanied by much pain and irritation. One evening, in the beginning of May, there was a sudden escape of coagulated blood from the rectum, which gave much relief, being followed by a free discharge of pus from the opening in the groin. It was soon after this—there having been no evacuation from the bowels for a week—that a large quantity of feculent matter escaped from the fistula. It diminished in quantity after the bowels had been acted on by medicine. When an enema was given, it at once poured out at the groin. After this the contents of the bowl escaped from time to time in small quantities, but this ceased some weeks before the end of July, when the fistula finally closed. During all this time she was extremely ill, and became much emaciated —losing for a while the use of the left hand and arm. I saw her a few days ago. The opening had been closed for nearly three months. She was getting fat and felt well; and I trust that nature will yet do as much for Dr. Lyon's patient."

Mr. Keith thinks this case tells against the practice of returning the pedicle with the ligatures into the abdomen after ovariotomy. It is the only case in which he has done so, and it is remarkable that it is the only one, of those who recovered, in which the patient did not at once pass into good health after the operation. Of sixty patients submitted to ovariotomy, forty-seven recovered, all of whom are now well.

Art. 299.—*On the Absorption of Fibroid Tumours of the Uterus.**

By W. S. Playfair, M.D.

(*British Medical Journal*, June 6.)

The author referred to the occasional disappearance of fibroid tumours, and gave a brief account of the literature of the subject. He then gave an account of two cases which had been under his own care, in one of which the tumour was of the size of a large orange, in the other of an adult head, both the tumours eventually entirely disappearing. He then discussed the various theories which had been proposed to account for the occurrence; and stated his belief that the disappearance was probably due to a process of fatty degeneration of the fibres similar to that which preceded the diminution in size of the hypertrophied uterus after delivery.—Dr. Barnes said, no doubt all would join in the hope that remedies would be found capable of causing the removal of fibroid tumours, but he could not see that Dr. Playfair's cases afforded any proof that such remedies had been found. He himself had used bromide and iodide of potassium till he and his patients were tired out with the hopeless pursuit. He did not admit that the comparison drawn between fibroid growths and the healthy growth of the uterus under the stimulus of gestation was complete. He did not find in fibroids those large fibre-cells which formed during gestation, and which were so readily melted down and absorbed afterwards. The fibroid was denser; it contained more fibrous tissue; it was very much cut off from the vascular system of the uterus. The diagnosis of fibroid was often difficult. We ought not to be satisfied to accept a case as one of fibroid tumour unless it was indicated by one of two tests: firstly, the passage of the uterine sound beyond the normal length; and secondly, the mobility of the tumour and uterus *en masse* between the finger or the os uteri and the hand outside. He had seen fibroids diminish and disappear; but he had not seen medicines exert the smallest influence.—Mr. Spencer Wells concurred with Dr. Barnes in his doubts as to the power of medicines in causing absorption of fibroids; but he had no doubt that very large fibroids did occasionally disappear. The process might go on for months or years, and it might often not be quite complete. In one case, the process seemed to be one of softening or suppuration, the patient not having much discharge, but suffering constitutionally from symptoms of chronic pyæmia. In other cases, the process seemed to be a simple atrophy. In others, there was more or less calcification. He thought the chloride of calcium hastened the latter of these processes, as it certainly checked hæmorrhage. He believed that if lime were given for too long a time atheroma might be produced; and he had seen two cases where arcus senilis in young subjects and other evidences of arterial degeneration had followed long continued treatment by chloridè of calcium.—Dr. Graily Hewitt remarked

* Abstract of a paper read at a meeting of the Obstetrical Society, of London, May 6.

that as yet we had no trustworthy means of effecting the removal of fibroids by medication. He believed in their occasional but very rare disappearance. Of remedies he had found a very prolonged use of bromide of potassium and blue pill in small doses act favourably. Pelvic cellulitis was not seldom mistaken for fibroid.—Dr. Greenhalgh was of opinion that medicines had but little effect in curing fibroids; he had, however, seen marked benefit from the long-continued use of small doses of perchloride of mercury with quinine and belladonna, with aperients. He narrated a case in which disintegration of a large fibroid, and its discharge by two openings, one in the cæcum, and the other in the rectum, was progressing when the patient died. The diagnosis in some cases was by no means easy; he had known a retro-uterine hæmatocele mistaken for a fibroid in the posterior walls of the uterus. In another case, an interstitial fibroid deposit in the anterior wall of the uterus was assumed to have been absorbed by the remedies prescribed, when a large polypus was expelled into the vagina. He detailed the particulars of a case of large fibroid of the posterior wall of the uterus impacted in the pelvis, which he had successfully enucleated by an opening made through the vagina into the growth by the actual cautery.—Dr. Wynn Williams said that the action of bromide of potassium resembled that of iodide of potassium, which, as pointed out by Paget, had the power of causing the absorption of lymph effused within and around these tumours, but not of the proper tissue of the tumours themselves.—Dr. Playfair said that since he had written his paper Dr. McClintock had brought forward several additional examples of disappearance of fibroids. With regard to the influence of remedies, he did not believe they ever produced entire absorption of the tumour; they only acted in occasionally diminishing the size of the growth. He could not of course answer for the accuracy of the diagnosis in the cases he had quoted, although he considered it highly improbable that some other condition had in all been mistaken for fibroid tumours. With regard to his own case, he could confidently say that the symptoms were too distinct to make a mistake possible.

ART. 300.—*Malignant Disease of the Bladder; Dilatation of Urethra; Removal of Diseased Mass; Application of Styptics.*

Under the care of Dr. BRAXTON HICKS.

(*The Lancet*, May 30.)

Of the case here briefly recorded, Dr. Hicks remarked that it showed how much the bladder was capable of bearing local treatment; and he was much gratified at the result of the severe operation, which he was not aware had been done before. It formed a strong contrast to a case in the next bed, apparently as bad, but in which no local treatment had been employed. Quick dilatation was very manageable; the finger passed readily, and even a forceps by its side. He believed that very

much could be done in villous disease of the bladder, both in diagnosis and treatment.

Mrs. ——, aged sixty, had been suffering from great distress in the bladder, making her frequently call out. A quantity of blood and mucus was passed constantly. On examining per vaginam, a swelling was detected, apparently in the bladder. This the catheter showed to be a soft mass, which readily bled on being touched As she was losing much blood, Dr. Hicks thought the disease might be attacked locally.

The patient having been placed under chloroform, the urethra was dilated by a Weiss's dilator; the finger readily passed, and a cauliflower-like mass, the size of a small orange, was found attached to the posterior wall of the bladder. It was evident that the disease had not yet extended beyond the walls of the bladder. As much of the mass as could be with safety removed was taken away by forceps and the wire-rope écraseur, with very little bleeding. To the base, solution of perchloride of iron was applied by means of lint passed through the urethra with a forceps. After this the bladder was thoroughly washed out with water.

The effect of this treatment was to restrain bleeding for months. For a week after the operation there was some feverishness, and about the same distress as before; but after this the bladder held urine for a much longer period, and she was evidently suffering much less from frequent desire to micturate.

About six months afterwards the bladder became more irritable, and the urine bloody; she was consequently again put under chloroform, the urethra dilated, and the bladder examined. The disease had not recovered its original size, but was firm and smooth. A strong solution of tannin was applied, and the bladder well washed out afterwards. The disease did not appear to have extended beyond the walls of the bladder. This operation did not cause much pain afterwards, and, although she still has forcing down and tenesmus, her state is much more satisfactory than it was on entry; the contrary of which might reasonably have been expected had she been left alone.

Art. 301.—*A Case of Coccyodynia cured by Operation.*

By George Kidd, M.D.

(*Dublin Quarterly Journal of Medical Science,* November, 1867.)

Dr. Kidd cites the account of the affection given by Simpson, Scanzoni, and West. His own case is as follows: He attended a young lady in her first labour. She had a very long and unyielding perineum. When she began to move about, she had great pains in the coccyx; it was greatest in sitting down and rising up. After much unavailing treatment, Dr. Kidd resorted to subcutaneous incision. He introduced a narrow, long-bladed tenotome at the point of the coccyx, close to the right side, to above the part found tender on pressure; he then cut from behind forwards, keeping close to the bone, dividing all the tissues on that side; he then carried the knife round the apex, cutting all the

fibres attached there, then passing it up the left side, divided the tissues in the same way. Only a few drops of blood escaped. The relief gained was complete.

Art. 302.—*Diagnosis of Ovarian Dropsy.*

By I. Baker Brown, F.R.C.S. (Exam.)

(*On Ovarian Dropsy: its Nature, Diagnosis, and Treatment.*)

Ovarian dropsy may be suspected to exist, Mr. Baker Brown says in his recently published interesting and most instructive work, when, with a slowly increasing abdominal tumour, there are such general signs as emaciation, sunken or contracted features; the absence of marked œdema of the legs, of the special symptoms of ascites, or of those organic lesions productive of it; of any notable impairment of the patient's activity; of any great deterioration of the functions of life. The disease may be more than suspected, it may be presumed to exist, when percussion reveals fluctuation, and in every change of posture the fluid is detected at the most prominent part of the tumour, whilst the intestinal sound is present only on the sides, and the dull sound extends into the pelvis.

When in an earlier stage than the above, before the tumour has risen out of the pelvis, an examination *per vaginam et rectum* discovers an elastic tumour in the recto-vaginal pouch, loose in position and probably distinctly fluctuating, without the presence of the symptoms of hernia, or of the pain of a prolapsed ovary, then we may be almost certain that it is a dropsical ovarian cyst, and by watching, the progressive increase of the tumour strengthens the conviction. It should be remembered that, when there is only one cyst, the tumour is generally more perceptible on one side of the body, and its surface feels more equal; but that when there is a compound cyst, the unilateral character of the tumour is liable to be lost, the symptoms to be more or less obscured, and the fluctuation less distinct.

The principal diseases liable to be mistaken for dropsy of the ovary are—

1. Retroversion and retroflexion of the uterus.
2. Tumours of the uterus: *a*, solid; *b*, fibro-cystic.
3. Ascites.
4. Pregnancy.
5. Pregnancy complicated with ovarian dropsy.
6. Cystic tumours of the abdomen.
7. Distended bladder.
8. Accumulation of gas in the intestines.
9. Accumulation of fæces in the intestines.
10. Enlargement of the liver, spleen, or kidney, or tumours connected with these viscera.
11. Recto-vaginal hernia, and displacement of the ovary.
12. Pelvic abscess.
13. Retention of the menstrual fluid from imperforate hymen.
14. Hydrometra.

For the diagnostic features of the above, we must refer our readers to Mr. Brown's work.

Art. 303.—*Diagnosis of Ovarian Tumours.*

By T. Gaillard Thomas, M.D., Consulting Physician to the State Woman's Hospital, New York, &c.

(*Treatise on the Diseases of Women.*)

In this elaborate work the author says, in most cases the origin of the tumour may be determined by the following means :—

In Uterine Fibroids.	*In Ovarian Tumours.*
1st. There is usually menorrhagia.	1st. Menorrhagia does not exist as a symptom.
2nd. The uterus, measured by the sound, is enlarged.	2nd. Uterus is not enlarged.
3rd. Mass felt per vaginam is irregular and continuous with uterus.	3rd. Mass felt per vaginam is smooth and not continuous with the uterus.
4th. There is often leucorrhœa.	4th. There is no leucorrhœa.
5th. Sound placed in utero and made to move the uterus, the tumour felt by hand on abdomen moves also.	5th. The uterus may be moved without the tumour moving.
6th. The uterus is generally displaced.	6th. The uterus is not so markedly displaced, although it may be somewhat so.
7th. There are often several tumours.	7th. There is generally only one tumour.
8th. The tumour is always hard.	8th. The tumour, if of fluid type, fluctuates.

From abdominal dropsy or ascites, a differentiation is often extremely difficult, and always so important that a careful consideration is necessary.

In Ovarian Dropsy.	*In Ascites.*
1st. A small, round tumour will have shown itself in the beginning in one iliac fossa.	1st. The enlargement will have shown no small tumour at any point.
2nd. In supine posture a rotundity is observed in the abdomen.	2nd. In supine posture the fluid gravitates to sides of abdomen, and the abdominal surface is flattened.
3rd. Percussion made in supine posture gives dulness over surface of abdomen.	3rd. Percussion gives resonance over abdominal surface because the intestines float on the fluid.
4th. Change of posture alters line of dulness but little.	4th. Change of posture greatly alters line of dulness.
5th. No pouching and fluctuation are noticed by vaginal touch of Douglas's cul-de-sac.	5th. Douglas's cul-de-sac is pouched by fluid which fluctuates.
6th. No evidences of cardiac, renal, or hepatic disease exist.	6th. Evidences of cardiac, renal, or hepatic disease almost always exist.
7th. Skin is normal as to colour, moisture, &c.	7th. Skin, in majority of cases, gives evidence of cirrhosis by its parchment feel and jaundiced hue.
8th. Patient rolling in bed, no wave will be detected by inspection.	8th. Patient rolling in bed, a wave will be detected in the abdomen.

From hydatids in the abdomen, the diagnosis of ovarian tumour will generally be practicable only by explorative incision, unless those growths be developed only upon the organs in the upper part of the abdomen. If the mass collect above the ovaries, if the patient be not a menstruating woman, or if such a development have been detected elsewhere in the system, all these considerations will of course prove of great weight in deciding the point.

Art. 304.—*The Intra-Uterine Pessary as an Hæmostatic in Child-bed.*

By Dr. J. Hertz, of Könisberg.

(*Monatsschr. f. Geburtskunde*, August, 1867 ; *Schmidt's Jahrbücher*, No. 1, 1868.)

The subject of this communication was a delicate primapara, who had menstruated irregularly before her marriage, and whom, in consequence of failure of the fœtal sounds, Dr. Hertz delivered with the forceps ; the lying-in proceeded normally, but the woman was obliged to give up suckling her child. Some five weeks after delivery, and following a slight oozing of blood which had lasted for fourteen days, bearing-down pains and severe hæmorrhage came on. On examination there was found an anteflexion and version of the previously pregnant uterus resulting from imperfect renovation of its posterior wall. In spite of rest, cold injections, and the administration of ergot of rye, the hæmorrhage came on again after a few days, and was followed by symptoms of intense anæmia. After fruitless attempts to relieve the bleeding by the most powerful styptics, Dr. Hertz decided upon elevating the uterus by means of the sound. The introduction of this gave great pain, but the uterus was restored to the proper position and retained there by a gum pessary. Not the least disturbance resulted, and the previous excessive hæmorrhage ceased directly after the application of the pessary; on the third day, spasmodic pains came on in the hypogastric region, and a small quantity of blood was subsequently discharged, but from this time there was no more bleeding. Fourteen days later the pessary was removed in consequence of wringing pains in the abdomen, and a profuse mucous discharge ; on examination it was discovered that the anteflexion had been converted into an anteversion. Cool injections were administered, and after a few days a gum-elastic catheter introduced; this, after it had been worn for three months without causing annoyance, was removed, since the woman was then completely cured.

This case controverts the principle laid down by Hildebrandt, that the application of the intra-uterine pessary is unsuitable for cases of severe hæmorrhage, especially when there is recent flexion of the uterus dependent on imperfect renovation of the hinder wall of the organ which had been pregnant a short time before. Experience teaches that in these cases there is hæmorrhage into the uterine cavity; the appearance of the sanguineous discharges at intervals, the distension of the hypogastric region before each attack of hæmorrhage, and the spasmodic

pains with which large quantities of blood are at once discharged, show that there is a collection above the place of flexion which, when it has reached to a certain amount, excites the uterus to contraction, and is then forced past the seat of obstruction. Since the cause is always the same—namely, the strangulation of the blood-vessels at the seat of flexion, which necessarily results, as Scanzoni remarks in his manual, in stasis in the walls of the uterus, in loosening of the mucous membrane, and in diminished resistance of the walls of the blood-vessels, with consequent rupture; so the only rational treatment of the hæmorrhage is to remove the strangulation at the bending of the uterus, and by that means to give free course to the circulation in the substance of the organ, to open up the normal passages of the blood, to unburden the swollen mucous membrane, and so to remove the immediate cause of rupture of the vessels. The less extensive the loosening and serous congestion of the mucous membrane; that is, the more recent the flexion, so much the more surely will the restoration of the position of the uterus serve to relieve the flow of blood.

So evident, according to the preceding remarks, is the result of an early resort to this plan of treatment, that a few remarks concerning its safety are required. Martin, in his work on the versions and flexions of the uterus, says "that the uterine sound should seldom and not without great caution be introduced at the sixth week after delivery." Every practitioner will agree that, with so soft and relaxed a tissue as that of the uterus, caution is necessary; but when this caution is observed, the introduction of the sound is not only harmless, but has the merit in addition to that of restoring the uterus to its proper position, of promoting the involution of the organ. The danger likely to arise from the introduction of a pessary is the exciting and inflammatory process in the uterus or its appendages. One can, however, remove at any moment the cause, when it has commenced to set up any inflammatory mischief, and this recent inflammation of a bent uterus is by no means such a bug bear, since Martin has reported two cases in which this faulty position entirely disappeared after attacks of acute metritis.

Art. 305.—*Pocketing the Pedicle: a new and successful Method of treating the Ovarian Stump after Excision.*

By Professor Horatio R. Storer, M.D., of Boston, Vice-President Am. Med. Assoc., &c.

(*American Journal of the Medical Sciences*, January.)

Dr. Storer claims for this method the following advantages:—

1. The raw surface of the pedicle is attached directly to the raw surface of the abdominal wall, and the most favourable condition for primary union of these surfaces is secured.

2. Primary hæmorrhage is as easily prevented as though the pedicle were external, and so is secondary hæmorrhage also; for any desirable amount of compression can be obtained by the sutures; and if for any reason it were thought advisable, the external lips of the wound might

be opened, and the stump inspected by untwisting the wires, without opening the inner lips of the wound and exposing the abdominal cavity.

3. There is no inevitable fetid discharge from the stump, as is otherwise the case, unless its tanning or mummification by perchloride of iron is effected.

4. If a careful adaptation of parts has been made, serous edge to serous edge, and only raw surface to raw surface, as can be easily obtained with a little care, there is slight risk of suppuration being excited in adjacent tissues.

5. The existence of an infra-umbilical uterine outlet for the catamenial flux, and the occurrence of an intra-peritoneal hæmatocele, are alike rendered impossible.

6. The possibility of traction on intestine, or of its strangulation, is far less likely than with the of the clamp, inasmuch as we are able to save from one to two inches more of the pedicle, according to the thickness of the clamp that might else have been used, and of the abdominal wall through which the stump would have had to come.

Art. 306.—*On a Vaginal Drainer.*

By Dr. Rasch.

(*British Medical Journal*, May 23.)

At a meeting of the Obstetrical Society of London, held May 6th, Dr. Rasch exhibited a vaginal drainer which he had contrived to prevent the wetting of the bed while injecting the vagina. The instrument is an adaptation of a common speculum, made of ebonite. To expose to the fluid injected as much of the vagina as possible, this speculum is considerably shorter and bevelled off at the vaginal end. The brim is rather wider than in a common speculum, and covered in front by a sort of diaphragm, leaving a hole for the introduction of the tube of the injecting apparatus. The brim is perforated below by a short pipe, to which an elastic tube can be fixed, through which the injected fluid flows out into any convenient receptacle. With the douche the author had introduced to the Society on a previous occasion, and this drainer, irrigation of the cervix and vagina, or uterus, if desired, can be made for any length of time without interruption, and without trouble to the attendant or disturbance to the patient. By compressing the tube of the douche when once filled, and transferring the metal end from the vessel containing water to a vessel containing any medicated fluid, any desired quantity of the latter, however small, may be used as an injection. Both instruments are made by Mr. Jackson, 25, City-road.

(C) CONCERNING THE DISEASES OF CHILDREN.

ART. 307.—*The Treatment of Pleurisy.*

By GEORGE BUCHANAN, M.D., F.R.C.P., Assistant-Physician to the Children's Hospital.

(*The Lancet*, March 14.)

The treatment of pleurisy in its earlier stages, need not, Dr. Buchanan thinks, be particularly active. It should rather consist in relieving pain and in attending to the general condition of the patient than in any effort to cut short the inflammatory process. There are indeed cases where this method fails, and the disease goes on to the subsequent stage of empyema; but upon the most valiant treatment these cases of failure occur with at least equal frequency, and we may have so injured the strength of the child that he is in a far less favourable condition for undergoing the necessary treatment of his purulent effusion. Blood-letting in any form he would avoid, with perhaps the one exception of a rapid pleurisy occurring in a strong child, along with evidences of œdema or very rapid congestion of the lung, which may be urgently threatening the life of the patient, and then it is allowable to put one or two leeches on the chest. For the relief of severe pain, leeches are sometimes employed, and doubtless they have an effect; but if not so rapidly, certainly more safely; the same effect may be got from the use of hot flannels sprinkled with turpentine, or, it is said, from the employment of cold epithems. Dr. Buchanan has used mercury in a large number of cases, and he has not used it in a large number of other cases, and he cannot say that the evidence of its value is in any way clear. *A priori*, we should expect the drug to help in the absorption of exudation; but what should we say *à priori* on its advantages in a disease which tends in the other direction to pus-formation? Upon the whole, and mainly for the reason that affects his opinion of other antiphlogistic remedies, Dr. Buchanan judges that we do more wisely not to employ mercury—of course he means for its thorough constitutional effects. From antimony he has seen no good results, nor does he see any reason to hope for any. A much more valuable class of remedies are those which help us to relieve cough, and to control in some degree the painful respiratory movements. Foremost Dr. Buchanan names opium, to which he suspects that most of the good that may have been got formerly from the favourite combination with calomel is to be referred. In pleurisy, even infants will bear larger doses of opium than it is commonly thought expedient to give at young ages; but different children appear to be affected by it in different degrees, and it is always safest to begin with a minimum dose, increasing the quantity till a reasonable amount of physiological effect ensues. For a child of two or three years old, suffering under the acute pain of pleurisy, he should begin with not less than one drop; and if in four hours its effects were not observable, a drop and a half or two drops might be given until the dose is found which, repeated every four hours, will relieve the child's suffering. It is of consequence not to get the constipating effect of this drug, and

therefore, besides reducing its quantity as soon as may be, we shall do well to keep the bowels relieved by a dose of castor oil or calomel. A loaded colon or flatus in the intestines adds much and needlessly to the impediment of breathing.

When the acuter part of the disease is over, and we have to deal with pleuritic exudation, we begin to experience the advantage of our abstinence from lowering measures in the earlier days of the disease. In our efforts to promote absorption, much now depends upon keeping the child in a good condition of nutrition; and while iodide of potassium with bark, or the syrup of iodide of iron, is being employed, the child may have the best nourishment that it can take. Of local means for assisting absorption, painting with iodine, of about double the strength of the Pharmacopœia tincture over the affected side every day, and wearing a flannel bandage, have seemed to him the most useful. From blisters Dr. Buchanan has seen such troublesome and even dangerous results in the hands of other people, that he would certainly not use them himself. Of the revulsive class of remedies, it is not well to use any that have a weakening effect, but it is advantageous by hygienic arrangements to keep the skin acting pretty freely.

Art. 308.—*Treatment of Habitual Costiveness.*

(*Condie on Diseases of Children*, Sixth Edition.)

Dr. Condie, in his elaborate treatise on the diseases of children, says he has derived the best effects, as well in counteracting an habitual costive habit in infants as in preventing the recurrence of paroxysms of colic, from the use of a combination of extract of hyoscyamus (gr. iv ad gr. vj), ipecacuanha (gr. ij ad gr. iij), and magnesia (gr. xxiv ad xlviij).

Castor oil, which is usually given to obviate the inert state of the bowels in infants and young children, will in most cases be found to increase rather than to remove it.

Art. 309.—*On the Managemant of Sleeplessness in the Acute Affections of Children.*

By Henry Kennedy, A.B., M.B., one of the Physicians of the Cork-street Hospital, and attached to Sir P. Dun's Hospital.

(*Dublin Quarterly Journal*, May.)

In this article Dr. Kennedy makes some observations on the raving and sleeplessness so often attendant on the acute diseases of children. He is sure that sleeplessness in the acute diseases of childhood is, *cæteris paribus*, a much more serious symptom than in the adult. The result of many years' observation strongly confirms this. After a few mere prefatory remarks Dr. Kennedy calls attention to some points in connexion with the inducing of sleep in the acute diseases of children.

First, of food. When the proper stage arrives, say after the first week, much may be done by this means to induce the child to pass a quiet night. It will always be well then to act in keeping with the general habits of the child; and so the time of giving anything becomes very important. A little warmed milk will often be found to answer the end in view; or, as the case may be, a little bread and milk. Dr. Kennedy says specially a little, for if it be overdone—and in these days of overfeeding such may occur—the object will defeat itself. Another and probably more certain means of bringing on sleep is the administration of some stimulant, such as a few drops of brandy or some wine. Speaking generally of the fevers of childhood, wine is not required. Hence, when given with a special purpose in view, it acts with a very specific effect. It is not possible here to state the amount which ought to be given. The requirements of each case must regulate this. But from half an ounce to one ounce of wine may be said to be the dose for a child of six to eight years of age.

Anodynes may be ordered with very great advantage to children—far more generally, Dr. Kennedy believes, than is commonly supposed. The medicine he uses is the tincture of hyoscyamus, in the dose of a drachm, which, notwithstanding what has been written against its having any anodyne effects, he believes to be most useful. In some cases Dr. Kennedy has given two drachms at once, but only after the ordinary dose had failed, or had been but partially useful. In the acute diseases of children the use of opiates demands even more caution than in adults.

The last point in connexion with this subject which Dr. Kennedy notices is the position of the patient. "I know not," he says, "whether I am addressing any one who is familiar with this plan, but it is one which I have for several years past put in force, and often with very marked results. I had read in some book that sleep was often prevented from the position of the person not being in the right direction, and that to insure the soundest sleep the head should lie to the north; and, strange as this idea may at first sight appear, it has more in it than might be supposed. There are known to be great electrical currents always coursing in one direction round the globe; and there can be little doubt, in my own mind there is none, that our nervous systems are in some mysterious way connected with this universal agent, as it may be called, electricity. I am probably addressing some who are quite conscious of peculiar feelings on the approach of a thunder-storm. I have known many such. At any rate, whatever the explanation be, when I read what I have stated, the idea at once struck me that it might be turned to account in the treatment of disease, and very shortly afterwards the following case occurred:—A young lady, then about eleven years old, was seized with measles in a severe form. There was very high fever, restlessness, and raving, with a total absence of sleep, and this state went on longer than the natural course of the disorder seemed to account for. In fact, the fever did not come down with the decline of the eruption. Anodynes were now given, but without any marked benefit. I then thought of what I had read, and directed that the patient's position should be altered. She had been lying east and west, and she was now put north and south, and with a

very striking result, as on the very first night she got sleep; and though the fever, evidently like the secondary fever of small-pox, ran on some days longer, she did not suffer again from loss of rest. I must say, at the time this case occurred, I was quite unprepared for the result, and set it down more to chance than anything else. The fact, however, was enough in itself to draw my attention to the subject, and since then I have often put the same plan in force, and now cannot doubt that it is very frequently successful—I say frequently, for all are not equally susceptible. Nor indeed can this be expected. It applies, too, likewise to adults; and my friend Dr. Grimshaw has seen it put in force in some cases of fever in the Cork-street Hospital, and with marked benefit . . . . . One of the latest cases in which the means now brought forward were used was that of a little girl I saw with my friend Dr. Denham within the last month. Dr. Wilson of Coleraine-street also saw the case. It was one of severe gastric fever, with the brain very much engaged, and for a few days the symptoms were very like those which so often usher in hydrocephalus. In this case the following means were adopted. An anodyne poultice was applied to the abdomen, and the child's position was altered, and with a result which was very striking, for by the second day all danger had passed away, and the very first night of its adoption the child slept. I mention this case because it was seen by others."

In conclusion, Dr. Kennedy adds, that in scarlatina it will, he thinks, be found that anodynes should form a necessary part of the treatment. They have appeared to be very suitable to those cases where there has been such raving as if allowed to go on must destroy life. And again, in those cases of fever where the brain is greatly excited, the same plan will be found very useful. It is so even when the fever is of the typhus type, being marked by the presence of spots, and of which a number of examples have been given in another place. But it is more especially suitable for the type of fever known as gastric, which is so common in children, and so apt to prove tedious.

Art. 310.—*Infantile Remittent Fever, erroneously called Typhoid.**

By J. Brendon Curgenven.

(*Medical Times and Gazette*, February 29.)

The author observed that the points of analogy between typhoid and infantile remittent were not so well marked as between typhoid and typhus, or scarlet fever and measles. The error of confounding the two diseases had arisen from the continued character of the fever in severe cases, the duration of the fever, the diarrhœa that exists in most cases, and the eruption that appears on a few. Several English physicians had been misled by the writings of M. Rilliet, M. Barthez,

* Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society, February 11.

and other French authors. "To M. Rilliet," says Dr. West, "we are indebted for a most elaborate inquiry into this subject, which shows so close a resemblance to subsist between the two diseases as must, I think, remove all doubt with reference to their identity. Medicine," he says, "has not been able to cut short the course even of their mildest forms . . . . . And it will tend," continues Dr. West, "greatly to the avoidance of errors . . . if for the future we altogether discard the term infantile remittent fever from our scientific nomenclature, and speak as many French writers do, only of typhoid fever in children." The symptoms of typhoid fever in children as given by Dr. West and Dr. Tanner, were related and shown to correspond entirely with the symptoms of infantile remittent fever. They were—loss of appetite, listlessness, drowsiness, an exacerbation of fever at night with delirium, exacerbation also at 11 A.M. and 3 P.M., the remission being accompanied by a subsidence of most of the symptoms. In severe cases the remissions became less marked, and might be altogether overlooked, the fever then appearing continuous. There is mostly constipation at first, which is succeeded by diarrhœa, the stools being dark and offensive. There is pain and often tenderness in the abdomen; this is at the epigastrium, and not in the right iliac region. There is short hacking cough, with sibilus and rhonchus in the lungs. The rose spots are stated to appear in the second week; but, as Dr. West remarks, "they are often very few in number, and not infrequently are altogether absent. The fever," he says, "cannot be considered as passed before the thirtieth day. The convalescence is slow, and it is often prolonged for months." The right course to follow in the treatment, we are told, "is to carry the patient through an affection which we cannot cut short, with as small an amount of suffering and danger as possible." Diluents, laxatives, alteratives, leeches to the abdomen and the head when the symptoms so indicate; tartar emetic and opium; blisters to the occiput. In convalescence it is said that "tonics either do no good, or are actually injurious by rekindling the fever." One of the most important features of the disease is the temperature of the body, which falls quite or nearly to that of health between the exacerbations; and when such is the case the disease is not, nor can it be, associated with continued fever or typhoid, in which the temperature is above that of health, and continues so with but slight variation through the whole course of the disease. The characteristic symptom of the disease is the remission of the febrile symptoms. This may occur once, sometimes twice, and even three times, in the twenty-four hours. The period of remission varies in its duration and in its period of accession. The remission may last for six or twelve hours, or its period may be so short as to escape notice; and the fever presents then the appearance of continued fever or typhoid. The disease in severe cases passes to this state at once, and is thus easily mistaken for typhoid or typhus, as the abdominal or cerebral symptoms most predominate. In mild cases the nightly fever is unaccompanied by delirium, and may escape notice altogether, the gastric symptoms or the cough alone attracting attention, the ailment being then regarded as arising from gastric derangement or bronchial congestion, as one or other of these symptoms predominates. While the symptoms point to malaria as the cause of

infantile remittent, the result of the treatment of the disease by quinine fully confirmed the views of the author. He related eleven cases of variable severity, in which large doses of quinine at once arrested the symptoms, and the children within a few days became convalescent. All these cases occurred in a new, well-drained district in the month of March, 1867, with the exception of the eleventh, which occurred in October. The district is remarkably free from typhoid fever, the author not having had but one case there during eleven years, and that was in a young lady who was brought home from Worthing ill with the disease. He believes typhoid to be more rare in children than is commonly supposed, that disease occurring more frequently between the ages of fifteen and thirty. He does not deny that typhoid occurs in them; but the typhoid poison more frequently produces in children a fatal diarrhœa. Infantile remittent is caused by a malaria in the spring and autumn months, the same malaria that in adults gives rise to various masked forms of malarial disease, such as paroxysmal cough, remittent sickness, diarrhœa, neuralgia, &c. The adult may, in fact, have one or more of the symptoms of the disease, but in them the cerebral symptoms and the fever are much less marked than in children.

Art. 311.—*A Case of Successful Treatment of Apparent Death of a New-born Child by Transfusion.*

By Dr. Beneke.

(*Berlin. Klin. Wochens.*, 1867; and *British and Foreign Med.-Chir. Review*, January, 1868.)

A child delivered by turning, in eighth month, was born asphyxiated; its breathing and heart-beat had ceased about fifteen minutes. Five-quarters of an ounce of well-defibrinated and warm blood was injected by a glass syringe into the vein of the umbilicus. Breathing and pulsation ensued; but the ill-developed child died in nine hours. No thrombi were found anywhere. The brain was anæmic.

Art. 312.—*On Harelip.*

By Thomas Smith, F.R.C.S., Assistant-Surgeon to St. Bartholomew's and the Children's Hospitals.

(*The Lancet*, December 21, 1867.)

The age at which an operation should be undertaken for the cure of harelip is, in the author's opinion, between the third and sixth month of infant life. In recommending this period as the most favourable for the operation, Mr. Smith would not restrict it to any particular epoch, since many children are as robust and strong at the age of two months as others are at six.

In the event of a child coming under treatment during the period of

dentition, some interval between the eruption of the teeth must be selected for the performance of the operation.

It may sometimes happen that there is little choice of time for the operation—namely, in cases of newly-born infants who are unable to take the breast in consequence of the deformity, and where the performance of the operation may enable them so to do. Even in such a case, however, Mr. Smith would not undertake the operation unless requested by the mother. He would rather recommend that the child should be spoon-fed, either with its mother's milk or artificial food, until it had past the tender age of earliest infancy.

He gives this advice for the following reasons:—

1st. The operation can be done more perfectly and artistically on a young child than on a newly-born infant, the parts being larger, more fleshy, and more easily handled.

2nd. A young child has, *cæteris paribus*, far more constitutional vigour and power of resistance to and recovery from injury than a newly-born infant; the younger child, therefore, is more likely to die under the operation.

3rd. Many infants with harelip die from causes unconnected with this deformity during the first few weeks of life, thus dispensing with the necessity of an operation.

M. Guersant, the present surgeon at the Children's Hospital, Paris, is against an early operation. Giraldès (his predecessor at the same hospital), who has had great experience in this deformity, recommends that the operation should be done in the first days of infant life, and in this opinion many coincide. The grounds of Giraldès' opinion are the following:—

1. The younger the child is, the more quickly union takes place.

2. That in the case of cleft palate the union of the lip tends to bring the separated bones together, and to diminish the fissure in the hard palate.

3. That if the operation be postponed, infants get into a habit of thrusting their tongues into the hiatus between the bones, until at last the tongue acquires "le droit de domicile" in the palatine fissure. In a paper where this opinion is expressed,* nine cases of Giraldès are quoted, and of these three were under the age of ten days when subjected to the operation; two of them died.

On this question Sir William Fergusson, than whom no one has a larger experience, thus expresses himself: "The earlier the operation is performed the better; assuredly before teething. I decidedly prefer before the end of the first month in a healthy child, though the operation may be performed any time earlier, to within a few hours of birth."

The same author, however, recommends that in the case of weakly infants, where the gap in the lip is large, and especially if the palate be cleft, the operation should be postponed for some months, until the child has acquired strength. Mr. Smith has himself operated on but one child under a month old. In this case, union at first took place; symptoms of syphilis, however, supervened, the line of union ulcerated, and the child died.

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* *L'Union Médicale*, No. 138, 1865.

He has seen very many infants with harelip die before the third month, without operation, of causes not connected with their deformity.

Mr. Cooper Forster recommends the performance of an operation "at the earliest possible period, remembering, however, that loss of blood in very early infancy may be attended with the worst consequences." "I should," says Mr. Forster, "have no hesitation in operating immediately after birth, so as to avoid the shock to the mother occasioned by the sight of the child. The operation has been performed successfully within seven hours after birth. But the possibility of a fatal issue must not be forgotten."

Mr. Forster prefers to encounter the greater risk of the operation at this period, on the ground that the danger of the operation is less than that of imperfect nutrition from the deformity; and in support of this he relates two cases where death occurred, as he believes, from this cause—the one at six weeks, the other at fifteen days, after birth. But it is worth noticing that the death in the first case ensued from convulsions and diarrhœa the day after the operation for harelip had been performed; while in the second case the same operation had been done four days before death. Thus in both instances the operation may have had something to do with the fatal result.

The inability to suck, as far as Mr. Smith's experience goes, is less frequently dependent on simple harelip than on fissure of the hard palate—an irremediable deformity at this tender age. In cases of harelip with cleft palate the early union of the lip certainly tends to bring the bones together; even in these cases, however, the loss of a month or two can make no great difference in this particular, especially if the mother be directed frequently to press the bones together from the first, or if the truss recommended by Sir William Fergusson be worn by the child.

ART. 313.—*On an Apparatus for Catheterization of the Air-passages, and for Dilatation in New-born Asphyxiated Children.*

By Dr. LÖWENHARDT.

(*Mon. f. Geburtsk.*, 1867; and *British and Foreign Med.-Chir. Review*, January.)

Dr. Löwenhardt prefaces that a number of examinations of dead children in whom fruitless attempts at resuscitation had been made, taught him that what prevented the access of air was the accumulation of mucus, blood, and other fluids in the larynx and air-tubes, the result of premature efforts to respire. He further calls attention to a sure sign of life—it is the existence of pulsation in the fœtal part of the umbilical cord, which may be discovered when every other sign of life is gone. To feel this pulsation in the umbilical vessels, the insertion of the cord must be seized between finger and thumb rather deeply, and in such a manner that the volar surface of the hand lays gently on the child's belly over the region of the liver. In no case, says Löwen-

hardt, in which this beat was not felt, has the child recovered. He then describes his apparatus. It consists of a pump and a fine india-rubber tube ten inches long, with catheter openings at the end. This tube is inserted by the aid of a fine stilet into the trachea in the following way:—An assistant with thumb and finger presses the neck above the larynx, closing the œsophagus, whilst the operator depresses the tongue with his forefinger and slips in the tube. This tube is then attached to the aspirating pump, which is used to draw out the obstructing fluids; then air is gently introduced.

Art. 314.—*Infantile and Inherited Forms of Syphilis.*

(*Medical Times and Gazette*, December 7, 1867.)

The *Report of the Committee to Inquire into the Treatment and Prevention of Venereal Diseases in the Army and Navy*, contains very important evidence given by Dr. Jenner, Dr. Arthur Farre, Dr. Barnes, and Mr. Hutchinson on infantile and inherited syphilis. Dr. Jenner expresses himself strongly on the therapeutic effects of mercury in this form of syphilis, adding that he has no more doubt about the influence of mercury than he has of the influence of an aperient; and Dr. Farre, whose experience is very great, regards the treatment of infantile syphilis by mercury as most simple and effectual, provided only that such treatment be commenced sufficiently early and before the stage of atrophy has set in. Dr. Jenner's remarks on the relation of a syphilitic taint to tubercular, strumous, and rickety diseases, successively appearing in the children of one family, are very important. He traces the influence of a syphilitic taint, minimized, as it were, by process of time, as the increasing family brings poverty, defective hygiene, and insufficient food into a more and more prominent position, and he thinks that he sees in that an explanation why the later-born children should be tubercular, strumous, or rickety, while the first or second born should present syphilitic symptoms.

Art. 315.—*Phosphate of Soda in the Intestinal Trouble of Children.*

By William Stephenson, M.D.

(*Edinburgh Medical Journal.*)

The cases in which Dr. Stephenson recommends phosphate of soda are chiefly the following:—

In infants who are being artificially reared, and who are liable to frequent derangement of the bowels; also when the phosphatic elements in the food seem deficient, or when articles of food rich in phosphates, such as oatmeal, disagree; where from the character of the motions there is a deficient or defective secretion of bile. It is thus of service in cases of chalky stools or white fluid motions. Dr. Stephenson has also found it of service in many cases of green stools. In diarrhœa

generally, it is more difficult to distinguish the class of cases. In simple diarrhœa, such as we frequently meet with in the summer months, he has not found it of much service alone, although it may be of use when given in combination with other remedies. It is chiefly in that class of cases which are more properly termed duodenal dyspepsia that it is of benefit. Diarrhœa after weaning is generally of this nature, and the cases are often chronic, or of some weeks' standing, the mother generally having exhausted her own and the nearest druggist's resources before applying for advice. It is also of service in some cases where the diarrhœa is due to some general cachexia.

He also uses it with adults in some cases of constipation, and in cases of duodenal dyspepsia. He likens its action in phthisis to that of the hypophosphites of soda.

The dose for children is four to ten grains in the food; for adults, twenty to forty grains in water, and taken after meals.

Art. 316.—*On the Employment of Lithotrity in Infants in Cases of Small Vesical Calculi.*

By M. Marjolin.

(*L'Union Médicale*, No. 30, 1868.)

The following report was communicated to the Société Impériale de Chirurgie by M. Marjolin:—

The subject, an infant between two and two and a half years of age, was brought to M. Marjolin in a condition of emaciation and extreme exhaustion. Suffering was expressed by an anxious countenance; the abdomen was tympanitic and very painful; in short, the infant presented nearly all the symptoms of subacute peritonitis.

For three months there had been great trouble in passing water. There was excessive thirst, but the patient could not swallow anything without subsequent vomiting. M. Marjolin, in examining the patient with great care, passed a catheter, a proceeding which was very painful, and brought away a large quantity of urine mixed with pus. The diagnosis was: suppurative nephritis, peritonitis about the region of the kidneys, vesical catarrh. The infant was treated on this supposition, but quickly succumbed to the progress of the disease, by which it had been very much reduced in strength.

The autopsy justified M. Marjolin's diagnosis. There was suppurative nephritis on the right side leading to peritonitis around the affected kidney; there was also a purulent collection communicating with the inflamed ureter. The walls of the bladder were two-thirds of a centimetre in thickness; in the vesical cavity was a soft body made up of pus and fibrinous layers superposed as in the interior of an annen rismal pouch; in the centre of this mass was a small calculus.

During the lifetime of the little patient the sensation of a hard, resistent and sonorous body washing in the bladder was never experienced by catheterism, which was performed every day. This may be conceived,

since the small stone was found so completely enclosed within a mass made up of fibrinous membranes and pus.

This is the first case of the kind that M. Marjolin has had an opportunity of observing, but several times he has had occasion to see children aged one, two, three, and four years, in whom small vesical calculi existed. He asks if lithotrity be not indicated in such cases? He has performed the operation on three occasions with very young children affected with calculi, and on each occasion the treatment was followed by success. In two cases the calculus was hardly as large as half an olive stone, and was broken up at a single sitting; in the third case the stone was larger, and its size necessitated eight sittings; the infant was attacked with symptoms of intermittent fever, which were stopped by sulphate of quinine. Except this febrile attack, the little patients were subjected to no affection beyond a temporary obstacle to the flow of urine from the presence of calculi fixed in the canal of the urethra, which at times required extracting. M. Marjolin asks if in such cases lithotrity be not preferable to the cutting operation?

Art. 317.—*On the Therapeutical Employment of Alcohol in Children.*

By Dr. P. Gingeot, of Paris.

(*Bulletin Général de Thérapeutique;* and *British and Foreign Medico-Chir. Review,* April, 1868.)

In the first part of his paper Dr. Gingeot passes in review the different opinions and modes of practice, in reference to the use of alcohol in the treatment of disease, of the modern English and French school of medical practitioners; and he decidedly inclines to the belief that the doctrines of Dr. Todd, with certain modifications, are founded upon truth and justified by experience. He admits that the alcoholic treatment has been frequently pushed too far, but still he thinks that the results obtained in England deserve the most serious consideration. In France this mode of treatment has been lately adopted with success in the diseases of children, especially by MM. Barthez and Rilliet, who employ it in acute suffocative bronchitis; by MM. Trastour and Gatterre, who give alcohol in large quantities even to infants; by M. Cazin, who orders hot wine in certain adynamic forms of smallpox; and by M. Bricheteau, who employs alcoholic drinks to a great extent in infectious diphtheria. But until very lately, says Dr. Gingeot, no one in France has employed the alcoholic treatment in children in the manner indicated by Dr. Todd, and therefore he conceives that his own results will be received with interest. In prescribing alcohol to several patients, Dr. Gingeot has not confined his treatment specially to cases of a manifestly adynamic character, but has administered brandy in well-marked sthenic cases, as well as in those where depression was a prominent feature. The mode of administration was in gum-julep or in sugared water. The cases so treated were eight of pneumonia, of which seven were cured, and one died; one of typhoid fever, ending in recovery; one of capillary

bronchitis, following whooping cough, and ending in death; two of pulmonary tuberculosis, following whooping cough, and ending in death; two of measles in a severe form, one being followed by a cure, the other by death. In reference to the general effects of this treatment, Dr. Gingeot finds that the alcohol has never caused any serious disturbance of the digestive system, and that in many cases the appetite has been increased, and the tongue and the mouth have been cleaned and rendered moist. In certain cases there was diarrhœa or constipation, but these symptoms could not be referred to the treatment, inasmuch as they ceased upon the daily dose being increased. As to the circulatory apparatus, one of the most frequent effects of the alcoholic treatment was to lower the pulse, and a record of cases is given to show the precise effect of the use of alcohol in this respect; and the temperature in several instances was lowered in a sensible manner, although the lowering of the pulse did not always coincide with the diminution of heat. The nervous symptoms, such as cephalalgia, heaviness of the head, restlessness, sleeplessness, and delirium, were very considerably relieved by the use of brandy, and in no case did brandy produce them. Stupor and singing in the ears yielded in the same manner, as well as subsultus tendinum, and never did the least symptom betray itself of any intoxication or subsequent depression. There was no difficulty in ascertaining the beneficial influence of the treatment on the restoration of the strength and the rapidity of the convalescence, for as soon as the patients were able to get up, the greatest part of them were firm on their legs. Of all the peculiarities evinced by Dr. Gingeot's patients, the most worthy of attention was perhaps the morbid tolerance of the alcohol; and he remarks upon the extraordinary facts, that a girl of fourteen should drink 250 grammes of brandy, and children of two years, or two years and a half old, should take 60 or 80 grammes without showing any sign of intoxication, or betraying the smell of alcohol in the breath. As to the *modus operandi* of alcohol, employed therapeutically, Dr. Gingeot thinks that it can be explained upon the theory that it prevents the waste of the tissues. The most general indication in therapeutics is to maintain the strength of the patient until the disease has accomplished its spontaneous evolution, and this indication is often fulfilled by alcohol; but whether it acts as a direct or indirect food, or whether it repairs specially the nervous substance, the deterioration of which is the cause of the nervous prostration, are matters of which we are still in ignorance. As to the efficacy of alcohol in fever, Dr. Gingeot believes that it diminishes the fever by exciting the medulla oblongata, and he adduces some theoretical considerations in support of this view. Other substances, such as tartar emetic and veratria, also reduce fever, but their mode of action is very different from that of alcoholic fluids, for, far from exciting any part of the cerebro-spinal system, they depress the whole of it, thus allowing free liberty to the vaso-motor nerves to contract the small vessels, to increase vascular tension, and to lower the pulse. This property, according to Dr. Gingeot, renders these drugs serviceable in pulmonary inflammations, but it tends also to produce nervous depression from anæmia and the development of suppuration.

APPENDIX.

ART. 1.—*Abstract of a Lecture on the Artificial Production of Tubercle, delivered at the Royal College of Physicians, May* 15, 1868.

By WILSON FOX, M.D., Holme Professor of Clinical Medicine University College, London.

(*Medical Times and Gazette*, May 23.)

DR. FOX commenced his lecture with a sketch of the different attempts which have been made at the artificial production of tubercle. Baron, he remarked, had asserted that he and Dr. Jenner had produced tubercle in rabbits by a particular kind of diet, but from Carswell's plates of these "tubercles" it was quite certain that they were entozoa. Cruveilhier thought he obtained tubercles in the lungs by the injection of mercury into the trachea, but in reality, as subsequent experiments have proved, he only obtained lobular pneumonia. One of the first attempts at inoculation was made by Professor Erdt. In his experiments, undertaken for the purpose of ascertaining the identity of scrofulosis and farcy in the horse, appearances were produced much akin to tubercle. But attention was chiefly called to the subject by the researches of M. Villemin, laid before the French Academy in 1865 and 1866. He succeeded in making rabbits tuberculous by the introduction of small pieces of tubercle under the skin. With other materials he failed. Villemin's experiments were repeated, and his conclusions to a great extent confirmed, on the Continent by MM. Hérard, Cornil, and Lebert, and in England by Mr. Simon. It was stated last year, however, by Dr. Andrew Clark, that the inoculation of other materials than tubercle would render animals tuberculous. It was on account of the discrepancy which existed between Dr. Andrew Clark's conclusions and those of other observers, and to endeavour to clear away the uncertainty which attended this important question, that the lecturer's experiments were undertaken. Dr. Sanderson had, at the same time, been carrying on a series of similar experiments, the results of which were lately laid before the Pathological Society; and Dr. Fox stated that, working quite independently, they both had arrived simultaneously at the same conclusion, that many morbid materials besides turbercle, and even inert matters, introduced beneath the skin of the rodentia, will render them undoubtedly tubercular.

In the lecturer's experiments, 117 guinea-pigs and twelve rabbits were inoculated with various materials. Of the 117 guinea-pigs fifty-eight had proved tubercular, six were doubtful, and fifty-three had failed. Those cases only were reckoned successful in which three of the following internal organs were affected—lungs, bronchial glands, liver, spleen, peritoneum, intestines, lymphatic glands. Where less than three were affected the case was classed as "doubtful." Extensive tables were exhibited showing the particulars of each case of inoculation. The animals had all been placed under conditions as healthy as possible, and were well fed and attended to. Inoculation of solids was performed with a long trocar (fitted with a piston), that of liquids with a hypodermic syringe. Of solids, no larger piece than the size of a canary-seed was ever used.

The various morbid appearances met with in the successful cases after death were then described at considerable length. Of these the following is a summary:—Two effects of inoculation were very rare—sloughing near the injury and local suppuration. But although circumscribed abscess and true pus were almost unknown in the guinea-pig, collections of foul cheesy matter under the skin formed one of the commonest local changes. It was commonly encapsuled, the capsule being firm and almost lardaceous in consistence, and passing insensibly into the surrounding tissue. In many cases extending round the local injury for a variable distance, small semi-transparent granulations were found, in size from that of a poppy-seed to that of a hemp-seed. Sometimes they were arranged in lines or scattered circles, and reached as far as the neighbouring lymphatic glands, round which they were grouped more closely. In addition to these, cords of induration, often cheesy in their centre, were occasionally met with, especially connected with the lymphatic glands. The granulations were often imbedded in the cellular tissue, and required careful searching for, which might account for the slight notice they had received from other observers. Under the microscope they were seen to consist, in the centre of a mass of nuclei, probably belonging to cells which were not visible, and at the margins of round and fusiform cells about $\frac{1}{3000}$ inch in diameter, together with larger ones $\frac{1}{1000}$ inch in diameter, and strongly resembling epithelial cells. Within these granulations peculiar strings of cells and nuclei were also seen, apparently enclosed within some limitary membrane, and looking as if the result of the altered growth of a lymphatic. The nearest lymphatic glands were enlarged and indurated, their section semi-transparent and cartilaginous-looking, with streaks and masses of cheesy material. The loculi of the cortical substance were densely packed with cells like ordinary lymphatic cells. At some parts the cells were undergoing fatty degeneration; other parts had undergone a fibroid change.

The *lungs* were permeated, more or less equally, with small scattered granulations, in size from that of a hemp-seed to a minute point, occasionally grouped, and then often showing a network of fibres running between the component granules, an appearance often seen in the human lung. Large tracts of the lung had sometimes undergone a fibroid change. The granulations had a semi-transparent cartilaginous margin, and a cheesy centre, which, in the larger ones, was sometimes breaking

down. Minutely examined, some were situated around bronchi, some on vessels, some apart from either. In the sheath of the bronchi they appeared to grow from little masses of lymphatic tissue normally found there. They consisted of masses of cells, about $\frac{1}{3000}$ inch in diameter, of which often only the nuclei were visible. Another position was the peri-vascular canal, in which they appeared to grow from the epithelium lining the canal. From both they extend rapidly into the surrounding pulmonary tissue. In the neighbouring capillaries a remarkable change occurred. The nuclei enlarged and the capillaries ceased to contain blood, their position being only marked by a line of nuclei traversing the wall of the air vesicle. This took place in an area around the granulation, round which a thickening of the walls of the air vesicles also occurred—an appearance likewise seen in the human lung. No appearance of pneumonia was ever noticed. The bronchial glands were affected like the axillary.

The *liver* was larger and denser than natural. A glistening semi-transparent tissue replaced the normal structure in specks, in lines between the acini, or in larger masses. The organ did not stain with iodine, and was brittle. Cheesy spots were frequent. The microscope showed the semi-transparent tissue to consist of cells embedded in a network of fibres.

The *spleen* was several times larger than natural. Sometimes rounded specks were seen, apparently enlarged Malpighian bodies; sometimes these were collected into groups and racemose masses. Large tracts were sometimes converted into a glistening transparent tissue like that in the liver. Cheesy spots were found, very different from pyæmic spots. Fibroid changes also occurred.

In the *intestines*, milky-white spots were scattered through the mucous membrane. Peyer's patches were enlarged and prominent both in the small intestine and the cæcum. Sometimes they were ulcerated, slightly in the former, often considerably in the latter, where the ulcers presented the granular uneven floor of the typical tubercular ulcer. The solitary glands were often enlarged and cheesy. The mesenteric glands were very uniformly affected. Dropsy in the peritoneum was common. Scattered through the omentum were granulations precisely like those found in tuberculous peritonitis in man, but without any sign of inflammation.

Out of the 117 cases, internal organs were affected in 64, and of these the local lymphatics were affected in 54, the lungs in 59, the bronchial glands in 55, the liver in about the same number, the omentum in about half, and the intestine in a quarter of the cases. Rabbits exhibited effects less frequently than guinea-pigs.

In all the cases the growth was one resembling lymphatic structure, and one of the safest definitions we can give of tubercle is that it is "a growth resembling lymphatic structure"—*i.e.*, it consists of round cells or nuclei embedded in a fibrous network. This structure occurs in masses like the acini of a lymphatic gland. The connective tissue in which they appear to grow changes its type of structure, and gives rise to one resembling lymphatic structure. The mutual pressure and the occlusion of the bloodvessels cause this to pass into an early decay. In the lung there is certainly nothing of the character of pneumonia, lobular or catarrhal. The alveoli are affected by thickening from without,

not by infiltration from within. The point of departure is not the blood-vessels, but something external to them, and their constant occlusion is the result of pressure or the implication of the wall of the capillary in the growth. The obstruction to the vessels is not from embolism, but from a growth from without, irritative rather than inflammatory, chiefly in the lymphatic system.

The affection of all these organs is manifestly tubercular. The only one which admits of doubt is the liver, and the affection there is, in its essential character and mode of growth, the same as tubercle in man. Any one who doubts whether these growths are tubercular is bound to show that a new disease exists, affecting only the *Rodentia*, excited by specific agencies, occurring in all the organs in the chosen seats of tubercle in man, growing with the same histological characters, and yet that it is not tubercle. The only discase the effects of which resemble it is leucocythemia. But neither tubercle nor the affection of the guinea-pigs is attended with an increase in the white corpuscles of the blood. The use of the word is being so restricted by different pathologists that it becomes a matter of difficulty to identify a disease with tubercle. Virchow's careful observation that all cheesy matter is not tubercle is being pushed to an extreme, and some pathologists doubt the tubercular character of any cheesy matter. Were all the limitations adhered to, "tubercle" would certainly cease to have a place in our nosologies. The microscopic characters are, perhaps, less valuable for identification of these growths than the naked-eye characters. Tubercle is a growth that undergoes many transformations, and at different stages it presents different appearances (especially in the lung), depending on the rapidity of its growth and the degree to which the epithelium is involved in it.

How are these growths produced? If these experiments are satisfactory, Villemin's statement that tubercle is a specific growth producible by itself alone becomes untenable. A thread saturated with vaccine lymph, a piece of putrid muscle, and even a simple seton, will give rise to a growth not distinguishable from tubercle. The experiments prove clearly that some substances are far more potent in producing it than others, and of all true tubercle and the so-called tubercular pneumonias are the most powerful.

[Of the 117 experiments, 58 had succeeded, 6 ranked as doubtful, 53 failed.

The following is a summary of these:—Tubercle from man inoculated eight times succeeded six times. Tubercle reinoculated from guinea-pig to guinea-pig twelve times, succeeded twelve times. The origin of this primary tubercle made no difference in the secondary result. Various doubtful reinoculations, and reinoculations of inflammatory products, fifteen in number, gave only one success and one doubtful case. Sputa from chronic bronchitis and acute pneumonia, four inoculations; no result. Sputa from phthisis, two inoculations; one result. Pus from various sources: non-tubercular, seventeen inoculations; seven times tubercle produced, one doubtful, nine failures. Various forms of "scrofulous," "tubercular," or "cheesy" "pneumonia," eleven inoculations, eleven success. Acute sthenic pneumonia, two inoculations; no effect. Solid portions of other acutely inflamed

tissues; eleven inoculations; four times tubercle, seven failure; among these, three of false membrane of diphtheria failed. Portions of chronic inflamed or degenerated tissues, gelatinous inflammation of knee, cirrhosis of liver and kidney, and lardaceous liver, nine inoculations; six success, one doubtful, two failure. Peyer's patch in typhoid, two inoculations; no result. Pieces of thread charged with vaccine lymph, four inoculations; all produced tubercle. Pieces of thread charged from true infecting syphilitic sores, six inoculations; all failed. Portions of cancer, two inoculations; both failed. Putrid muscle, fourteen days old, from dissecting-room, five inoculations; four produced intense tubercle, one died emaciated and dropsical without any discoverable tubercle. Simple pieces of clean cotton thread introduced under the skin, three inoculations; one success. Setons under the skin, four cases; one tubercle, three failed. In a few cases of failure the animals died after short periods from the effects of the injury and local suppuration. A few died from cold, but the majority were killed at intervals of from 40 to 130 days, and presented no change in the internal organs. The average period in which the tubercular animals died was from 40 to 75 days. Some proved, however, tubercular in shorter periods. One died intensely tubercular in six days.]

The analogy between the substances used for inoculation and those which, under certain circumstances, exist already in the system is very important. It shows how, as Niemeyer believed, tubercle in the lung may be often secondary to pneumonia, and tubercle elsewhere secondary to that of the lung. It also shows how the presence of an irritant, such as diseased bone, may give rise to the formation of tubercle, while (as Mr. Holmes as shown), if the bone is removed, the danger is averted.

In conclusion, Dr. Fox remarked that the field is a very wide one, and will well repay careful investigation. We may hope that, as the conditions under which tubercle is produced are better understood, we may be able to prevent, if not to cure, the disease.

Art. 2.—*On the Inoculation of Tubercle.*

By M. Piorry.

(*Ed. Medical Times and Gazette,* November 23, 1867.)

M. Piorry terminates an interesting paper with the following conclusions:—

1. The facts relating to the reproduction of tubercle consecutively to the introduction into the connective tissue, and other parts of the economy, of granular and tubercular matter, are no doubt of great interest; but they present the most complete analogy with those which have already been collected concerning the spontaneous or induced inoculation of pus in the different tissues and organs, or into the blood of man or animals. 2. The cause of such analogy arises from the fact that tubercular matter would seem to be nothing else than pus which has undergone, as a consequence of its sojourn in the organs,

numerous and varied modifications. 3. Not only pus, but also the scrum of blood, and the blood, which undergo no organization, deposited in the cavities, in the connective tissue, in the pulmonary cells, and the bronchi, may become foreign bodies, and give rise to grey granulations, and provoke the secretion of purulent products likewise susceptible of assuming the tubercular form. 4. If the facts observed by M. Villemin are to be regarded as inoculations because the tubercular matter of the granulations are reproduced in the lungs, the membranes, and the vascular and bronchial surfaces, we must also regard as inoculations the analogous phenomena which are found to result from the introduction of pus into the vascular orifices. 5. In these experiments it is not the inoculation and reproduction of a miasma or a virus which takes place, but the penetration of pus into the vessels, and its deposit, molecule by molecule, in the tissues. Such pus there undergoes alterations, becomes desiccated and modified, and induces by its presence the secretion and deposit of new pus, the appearance and consistency of which vary according to the more or less acute manner in which such phenomena are accomplished. Among the appearances which such pus may assume, should be especially noted the tubercular and granular forms ensuing on the chronic condition. 6. The importance of the distinction between the inoculation of a virus and the penetration of pus is great; for while the contagion of a virus or a miasma is possible and observable, this cannot be stated with regard to the penetration of purulent or tubercular molecules into the tissues of bloodvessels. 7. To maintain the identity of these two orders of facts is entirely to pervert the terms "inoculation" and "contagion" from their ordinary acceptation. 8. Nothing is more certain and more logical than the possibility of annihilating a virus by the introduction into the circulation of a special virulent agent; but nothing can be more absurd, dangerous, and blameable than the introduction of pus or tubercular matter into the system of a man not the subject of pyæmia or tubercle, with the intention of preventing his future liability to such altered condition of the blood and its usual organic consequences.

Art. 3.—*Tubercle in Man and the Lower Animals.*

By Edwards Crisp, M.D., M.R.C.S., &c.

(*Medical Press and Circular*, December 25, 1867.)

An elaborate paper was read by Dr. Crisp to the St. Andrews Medical Graduates' Association. The following are his conclusions:—

1. That the evidence we have at the present time does not warrant the assumption that tubercle in man is a contagious or zymotic disease.

2. That the above conclusion is strengthened by the abundant evidence we possess of its hereditary nature, and by the fact that, with the exception of syphilis, no zymotic disease, or tendency to disease, is transmissible from parent to child.

3. That all zymotic diseases observe certain phases of progress and decline.

4. That ordinary pulmonary tubercle is of uncertain duration, and may often be arrested in its early stage by change of climate and by medicinal and hygienic measures.

5. That tubercular deposit may be produced in man and in lower animals, (mammals, birds, and reptiles,) by a vitiated atmosphere, bad diet, a change of temperature, and other unnatural conditions.

6. That all deposits or growths of tubercle in man and in the lower animals (whether miliary or caseous), are preceded by an inflammatory or hyperæmic condition, and that as far as my examinations have gone they commence generally in the connective tissue of the air-cells.

7. That tubercular affections in the lower animals (mammals, birds, and reptiles) in confinement are very common, as shown by the numerous preparations and drawings exhibited, and that they differ materially in their nature and seat from those in the human subject.

8. That in the inferior animals the liver and spleen, as well as the lungs, are often affected, while in man, the disease in the two former viscera is comparatively rare.

9. That this deposit in the lower animals, especially in birds, is of a more uniform shape, of a more solid consistence, and contains a large amount of cretaceous matter; that large cavities are but rarely met with in the lungs, and that bloody, purulent, cutaneous and other exhaustive discharges, are absent.

10. That, as I stated many years since, many specimens of tubercle in the lower animals, as in the examples of rabbits and sheep on the table, have a verminous origin.

11. That I have met with many instances in the inferior animals showing the hereditary nature of tubercle.

12. That the production of tubercle, or something allied to it, in the rabbit by inoculation, requires to be tested by a larger and more varied amount of experiment, before we can arrive at positive conclusions.

13. That, looking to the evidence I have given respecting the supposed origin of some cases of tubercular peritonitis, the effects produced by inoculation, and especially to the fact that one form of tubercle, as I believe, in the serpent, is contagious, it behoves me to speak somewhat guardedly respecting the non-contagious nature of this disease in man. That the question is one that yet requires much patient labour and research.

Art 4.—*The History of Eight Cases of Placenta Prævia.*

By T. Gaillard Thomas, M.D., Professor of Obstetrics and the Diseases of Women and Children in the College of Physicians and Surgeons, New York.

(*The American Journal of Obstetrics*, May, 1868.)

When it has not been deemed advisable to resort to premature delivery as a prophylactic measure in cases of placenta prævia there are, the author says, two plans by which we may endeavour to save the lives of mother and child:—

"1st. We may alter the state of affairs at the cervix so that dilatation may occur without hæmorrhage.

"2nd. We may hasten the delivery of the child so as to render a *gradual dilatation* of the cervix unnecessary.

"The means at our command for accomplishing these indications may thus be tabulated and presented at a glance:

MEANS FOR PREVENTING HÆMORRHAGE WHILE THE OS DILATES.

1. Distension of cervix by bags of water.
2. Evacuation of liquor amnii.
3. Partial detachment of placenta.
4. Complete ,, ,,
5. The tampon or colpeurynter.

MEANS FOR HASTENING DELIVERY OF CHILD.

1. Ergot.
2. Version.
3. Forceps.
4. Craniotomy.

"The following cases will illustrate these remarks :—

"Case 1.—Mrs. W., aged 26, primipara, in good health, was suddenly taken with hæmorrhage three weeks before full term. She sent for me in great haste, but being occupied, I was unable to go to her, and she was seen for me by my friend, Dr. Reynolds. He discovered that she had lost a few ounces of blood, but that the flow had ceased. Three days afterwards she was again affected in the same way, the flow ceasing spontaneously. About a week after this she was taken during the night with a flow, which was so profuse as to result in partial syncope when she endeavoured to walk across the room. I saw her early the next morning, found her flowing slightly, and upon vaginal examination succeeded in touching the edge of the placenta through the os, which was dilated to the size of a ten-cent piece. Later in the day, Drs. Metcalfe and Reynolds saw her, and agreed in the propriety of premature delivery. In accordance with this consultation, at 7 P.M. I introduced into the cervix, with considerable difficulty and by the employment of some force, the smallest of Barnes's dilators. This in twenty minutes was followed by the next larger dilator, and in an hour by the largest. Dilatation was rapidly accomplished, but instead of removing the largest bag, I left it in the cervix until ten o'clock that night. Expulsive pains coming on at that time, I removed it, when the head rapidly engaged, and before morning Mrs. W. was safely delivered of a living girl. The placenta followed rapidly, and both mother and child did well.

"*Remarks.*—In this case, although hæmorrhage continued slightly throughout the labour, it never amounted to a sufficient quantity to endanger the lives of either mother or child. The implantation of the placenta being lateral, cessation of the flow occurred as the head advanced and made firm pressure against the bleeding surface.

"As to the fact of the case being one of placenta prævia, there could be no doubt. The placenta was distinctly touched by Drs. Metcalfe, Reynolds, and myself; one lip of the cervix was disproportionately

developed, and the placental murmur was much more distinct over the symphysis than near the fundus.

"Case 2.—Mrs. D., a lady over forty years of age, whose last pregnancy had been completed fourteen years previously, was placed under my care by Dr. Metcalfe. She was an excessively nervous and hysterical woman, but in good health. About three weeks before full term she was taken with hæmorrhages, which lasted for very short periods, recurred at intervals of four or five days, came on without assignable cause, and ceased without remedies. The cervix was not dilated, and no physical signs of placenta prævia could be detected either by vaginal touch or auscultation. Dr. Metcalfe saw her in consultation, and as all the rational signs of placenta prævia were present, and our patient was suffering from the repeated losses, and was becoming extremely nervous and apprehensive, we concluded to bring on premature delivery. Accordingly at 11 A.M. I introduced a large sponge tent into the cervix, and at 3 or 4 P.M. removed it, and succeeded in inserting Barnes's smallest dilator. At 9 that night the cervix was fully dilated at the expense of very slight hæmorrhage, and Dr. Metcalfe then being present, I removed the bag, intending to leave the case to nature, provided no flow occurred. Previously during the evening, upon changing the bags, I had distinctly touched the head as the presenting part, but now, to my surprise, I found that the bag impinging on this part had caused the child to revolve in the liquor amnii, and that the breech was now within the os.

"We decided under these circumstances to deliver at once. The patient being put under the influence of ether, I drew down the legs and delivered a living female child. The placenta followed in fifteen minutes, and both patients did well, the child rapidly recovering from an injury to one of its legs received during delivery.

"*Remarks.*—In this case the placenta was very nearly centrally attached. At one side of the os internum a space of only two fingers' breadth was free. Through this digital examinations were made and the hand pushed to seize the feet. The first stage being accomplished by means of the hydrostatic dilators, no hæmorrhage attended it; but without this means having been employed it is highly probable that profuse and dangerous flooding would have occurred.

"Case 3.—Bridget B., an Irishwoman in the lowest walks of life, was under the care of two of my students. Whether any premonitory hæmorrhages had occurred I could not ascertain. When I saw her, the os was nearly fully dilated, and, although considerable blood had flowed, the woman, who was quite robust, did not appear to be suffering from the loss. The placenta could be distinctly felt, laterally attached, but not very near the cervix. Feeling confident that evacuation of the liquor amnii would result in compression of the placenta by the head to such an extent as to check hæmorrhage, I resorted to this plan, predicting with some confidence that the child, whose heart-beats could be heard, would be delivered alive.

"These anticipations were only in part fulfilled. The hæmorrhage was so much diminished that no further interference was necessary, but the child, who was delivered some hours afterwards by the gentlemen in attendance, was still-born.

"*Remarks.*—It appears to me that a better plan in this case would have been to have practised version. The os was dilated, the liquor amnii present, and the woman strong. All things were favourable so far as she was concerned, and I do not doubt that by this operation we would have delivered a living child. This opinion I do not base upon my experience as to the fœtal mortality after version, but upon the fact that the pelvis was so capacious and the soft parts so relaxed as to have warranted the belief that such a result would have occurred.

"The woman, I believe, recovered without accident.

"Case 4.—Mrs. L., a multipara, aged thirty-five years, was placed under my care by Dr. W. H. Van Buren. Although not yet advanced much beyond the seventh month of pregnancy, she had often-recurring attacks of hæmorrhage which behaved precisely like those of placenta prævia. The patient was intractable, fretful, and unreasonable to such a degree, that I found much difficulty in examining very completely, and to this circumstance I in part attribute the fact that no physical signs of the condition could be detected. After attending her for a week I was suddenly called to her and found that she had lost so much blood as to be alarmingly prostrated. I at once introduced a Sims's speculum and applied a firm tampon of wet cotton. This was removed in twelve hours and replaced by another. Upon the removal of this, or rather some time before it, full doses of ergot were administered, and in a few hours a still-born child, with placenta and membranes, was cast off. The mother slowly recovered.

"Case 5.—I was sent for in great haste by Dr. J. B. Reynolds to see with him Mrs. B., a very thin, delicate, primiparous woman, who without prémonitory hæmorrhage had been taken at the commencement of labour with alarming flooding. In his note Dr. Reynolds stated that he feared that the death of the patient would occur before my arrival unless I made great haste.

Upon my arrival I found the patient very pale and almost pulseless. The os was dilated to about the size of a Spanish dollar, but was completely dilatable, and hæmorrhage was going on actively. Upon consultation we agreed that forcible delivery in her prostrate condition would result in exhaustion and death, while the rigid and contracted state of the soft parts would offer little hope for saving the child. In preference to immediate delivery we anæsthetized the patient with ether, and I, introducing my whole hand into the vagina, slowly but completely dilated the cervical canal, ripping off a portion of the placenta at its lowest point of attachment. Stimulants were then freely given, with opiates. The head fortunately soon descended, and the patient was delivered by Dr. Reynolds in about three hours. We had told the patient's friends that the child would be still-born, but to his surprise Dr. Reynolds found in it traces of life. He tells me that he resorted to active means of resuscitation for half an hour before a distinct respiratory effort could be detected. At last, however, he succeeded in restoring it.

"The mother made a very slow and tedious recovery.

"*Remarks.*—In this case version could have been readily accomplished when I saw the patient. I feel satisfied, however, that it would have

destroyed the life of the mother, and I doubt whether the child would have been saved by the operation. The exhaustion which would have attended gradual dilatation by the water bags or tampon would have been highly prejudicial, and I am impressed with the conviction that the plan which was followed was the best which could have been chosen.

"Case 6.—Dr. Metcalfe requested me to see with him Mrs. D. R., of whom he gave me the following history. She was a multipara, in good health, and in the eighth month of pregnancy. Without assignable cause she was affected by recurring hæmorrhages of considerable violence, for which he had been forced to use the tampon. Upon my seeing her, we agreed to employ the colpeurynter, Barnes's dilators not been then in use, and it was faithfully tried. For a time it would control the flow, but it excited violent efforts of the abdominal muscles without bringing on labour.

"In four or five days the patient became so much exhausted that we were apprehensive as to the result. The os was half dilated, fœtal heart inaudible, and hæmorrhage occurring at intervals. The patient was anæsthetized with ether, and Dr. Metcalfe passed his hand slowly into the cervix and removed the entire placenta.

"After this all flow ceased; the child was delivered in twenty-four hours, and the patient recovered without a bad symptom.

"Case 7.—I was called on by Dr. Charles F. Heywood to see Mrs. C., a multipara, who, during the first stage of labour, was taken with a most alarming hæmorrhage. Upon examination I found the os three quarters dilated and quite dilatable, fœtal heart audible, and woman not much prostrated, but beginning to show the effects of the rapid flow. With the sanction of Dr. Heywood I at once proceeded to turn, an easy operation, as everything was favourable, and delivered a living child. Both patients did well.

"Case 8.—I was sent for by Dr. R. to see, in consultation with him, Mrs. B., multipara, thirty-seven years of age, who was in labour with her fourth child. Her husband, who came to seek me, told me as we went to his house, that he had been in search of me two hours and a half, and that upon his starting out his wife was bleeding profusely. He likewise stated that with her two previous labours she had lost a great deal of blood, so that in the last her life had been considered in great danger.

"Upon arriving at the bedside I found the patient excessively pallid, her surface cool and covered with perspiration, and the pulse weak but not very much accelerated. She complained of dizziness upon lifting the head from the mattress, and expressed herself as much exhausted. The uterus was not contracting with any force. Upon making a vaginal exploration I found the vagina distended by a large clot, upon the removal of which there was a free flow of blood. The os was fully, or nearly fully dilated, bag of water ruptured, and a large piece of placenta could be felt in the cervical canal.

"Version could have been performed very easily, and as immediate relief was absolutely demanded, it of course suggested itself as the most promising resource. But so completely exhausted was the patient that I felt very sure that the operation would destroy her life. For the

child we had no hope in view of the great loss which had occurred. Rather than risk the draught upon her vital forces, which was necessary for such a procedure, I proposed the entire removal of the placenta, which would control the flow and give time for stimulation and nourishment before the delivery of the child. This being agreed to I introduced my left hand into the vagina, and carrying the thumb and two fingers into the uterus easily detached and removed the placenta. The hæmorrhage ceased at once with the exception of a slight oozing, and in four hours the uterus expelled the child. At this time the patient was taken with a profuse flow, which her physician informs me he found it impossible to control by any means, and in an hour and a quarter she died.

"*Remarks.*—I have reflected a great deal over this unfortunate case, the result of which filled me with disappointment, as I was most sanguine for the mother's recovery upon my leaving her after the operation. I feel that were I called to a similar case now I should reason and act as I did then. Of version under the existing circumstances I have already fully expressed my opinion; all means calculated to act as mechanical hæmostatics, would have been too tardy and incomplete in their effects and too exhausting in their application, and the head was too high to be easily or surely reached by the forceps. The only other procedure which suggested itself to my mind was perforation and very cautious extraction of the child, and this would have exposed the patient so much to exhaustion that I preferred the operation to which I so vainly resorted."

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